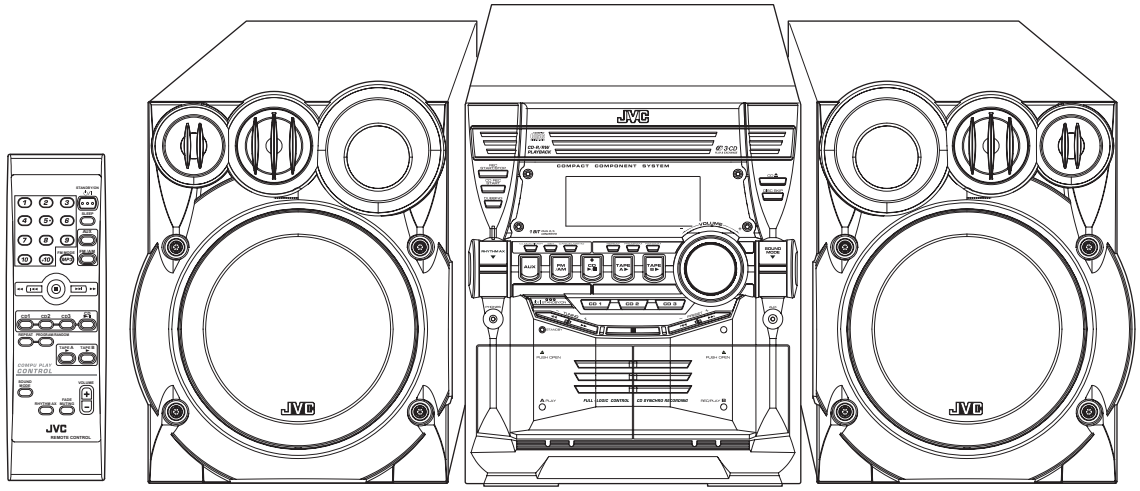
JVC

SERVICE MANUAL

COMPACT COMPONENT SYSTEM

MX-KB4



SP-MXKB4 CA-MXKB4 SP-MXKB4

COMPACT disc DIGITAL AUDIO

Area suffix

UW ---------- Brazil,Mexico,Peru
UJ ---------- U.S.Military

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No.MB254
2004/7

SPECIFICATION

Amplifier	Output Power		140 W per channel, min. RMS, driven into 6 Ω at 1kHz, with no more than 10% total harmonic distortion (IEC 268-3)
	Input Sensitivity/Impedance (1 kHz)		AUX IN:400 mV/50 kΩ
	Speaker terminals		6 - 16 Ω
	Phones		32 Ω - 1 kΩ
Cassette Deck	Frequency Response		15 mW/ch output into 32 Ω
	Type I (NORMAL)		63 Hz - 12 500 Hz
	Wow And Flutter		0.15% (WRMS)
CD Player	CD Capacity		3 CDs
	Dynamic Range		85 dB
	Signal-To-Noise Ratio		85 dB
	Wow And Flutter		Unmeasurable
Tuner	FM Tuner	Tuning Range	87.50 - 108.00 MHz (at AM9 kHz channel space)
			87.5 - 108.0 MHz (at AM10 kHz channel space)
	AM Tuner	Tuning Range	531 kHz - 1710 kHz (at AM9 kHz channel space)
			530 kHz - 1710 kHz (at AM10 kHz channel space)
Unit	Dimensions		270 mm × 306 mm × 456 mm (W/H/D)
	Mass		Approx. 8.6 kg
Speaker Specifications SP-MXKB4 (each unit)	Type		3-way bass-reflex type
	Speaker Unit		Woofer:20 cm cone × 1 Mid:5cm cone × 1 Tweeter:2 cm dome × 1
	Power Handling Capacity		140 W
	Impedance		6 Ω
	Frequency Range		45 Hz - 22,000 Hz
	Sound pressure level		87 dB/W·m
	Dimensions		257 mm × 321 mm × 261 mm (W/H/D)
	Mass		Approx. 4.9 kg
Power Specifications	Power Requirements		AC 110/127/220/230-240V , adjustable with voltage selector, 50/60 Hz
	Power Consumption		140 W (power on mode) 22 W (in Standby mode)

Design and specifications are subject to change without notice.

SECTION 1
PRECAUTION

1.1 Safety Precautions

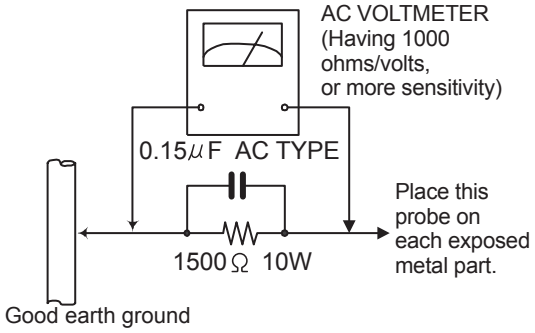
(1) This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.

(2) Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturers warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.

(3) Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.

(4) The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after reassembling.

(5) Leakage shock hazard testing
After reassembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.Do not use a line isolation transformer during this check.
- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
- Alternate check method
Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000Ω per volt or more sensitivity in the following manner. Connect a 1,500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground.
Measure the AC voltage across the resistor with the AC voltmeter.
Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Voltage measured any must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



1.2 Warning

(1) This equipment has been designed and manufactured to meet international safety standards.
(2) It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
(3) Repairs must be made in accordance with the relevant safety standards.
(4) It is essential that safety critical components are replaced by approved parts.
(5) If mains voltage selector is provided, check setting for local voltage.

1.3 Caution

Burrs formed during molding may be left over on some parts of the chassis.
Therefore, pay attention to such burrs in the case of preforming repair of this system.

1.4 Critical parts for safety

In regard with component parts appearing on the silk-screen printed side (parts side) of the PWB diagrams, the parts that are printed over with black such as the resistor (▬), diode (▮) and ICP (●) or identified by the " ⚠ " mark nearby are critical for safety. When replacing them, be sure to use the parts of the same type and rating as specified by the manufacturer.
(This regulation dose not Except the J and C version)

1.5 Preventing static electricity

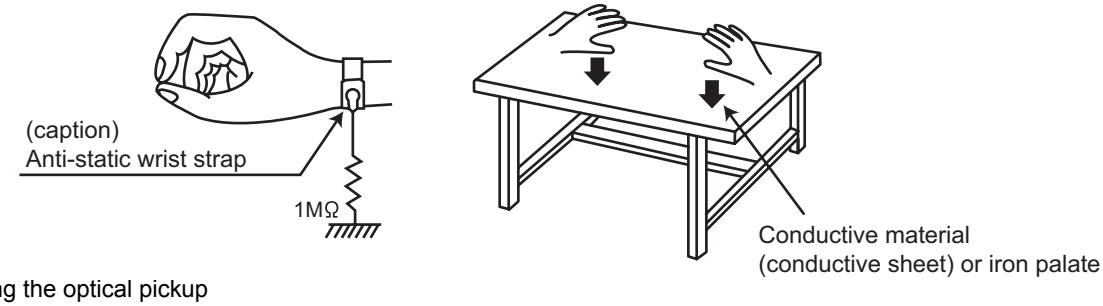
Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

1.5.1 Grounding to prevent damage by static electricity

Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as laser products.
Be careful to use proper grounding in the area where repairs are being performed.

(1) Ground the workbench
Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

(2) Ground yourself
Use an anti-static wrist strap to release any static electricity built up in your body.



(3) Handling the optical pickup
- In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition. (Refer to the text.)
- Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

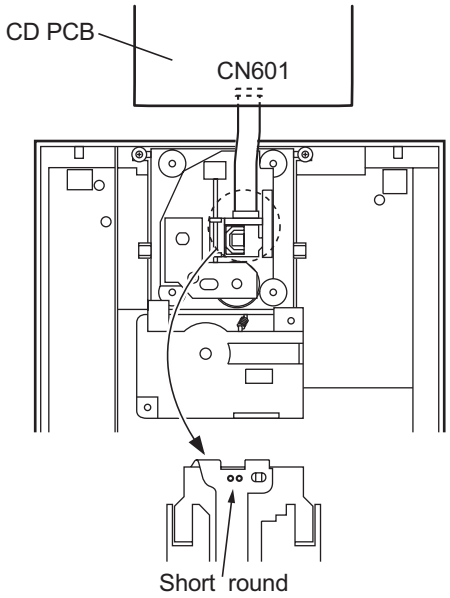
1.6 Handling the traverse unit (optical pickup)

(1) Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.
(2) Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the traverse unit. Be careful not to take too long a time when attaching it to the connector.
(3) Handle the flexible cable carefully as it may break when subjected to strong force.
(4) I t is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it.

1.7 Attention when traverse unit is decomposed

***Please refer to "Disassembly method" in the text for the pickup unit.**

- Apply solder to the short land sections before the flexible wire is disconnected from the connecto on the servo board. (If the flexible wire is disconnected without applying solder, the pickup may be destroyed by static electricity.)
- In the assembly, be sure to remove solder from the short land sections after connecting the flexible wire.



1.8 Important for laser products

1.CLASS 1 LASER PRODUCT

2.DANGER : Invisible laser radiation when open and inter lock failed or defeated. Avoid direct exposure to beam.

3.CAUTION : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.

4.CAUTION : The CD,MD and DVD player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.

5.CAUTION : If safety switches malfunction, the laser is able to function.

6.CAUTION : Use of controls, adjustments or performance of procedures other than those specified here in may result in hazardous radiation exposure.

⚠ ***CAUTION*** **Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.**

CAUTION : Visible and invisible laser radiation when open and interlock failed or defeated.
AVOID DIRECT EXPOSUREBTO BEAM.

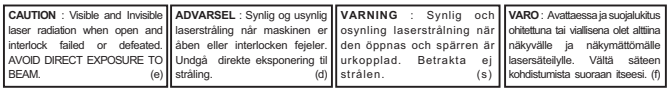
ADVARSEL : Synlig og usynlig laserstråling når maskinen er åben eller interlocken fejler. Undgå direkte eksponering til stråling.

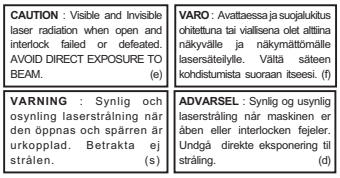
VARNING : Synlig och osynlig laserstråling när den öppnas och spärren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettuna tai viallisena olet alttiina näkyvälle ja näkymätttömälle lasersäteilylle. Vältä säteen kohdistumista suoraan itseesi.

REPRODUCTION AND POSITION OF LABELS

WARNING LABEL


CAUTION : Visible and Invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)
ADVARSEL : Synlig og usynlig laserstråling når maskinen er åben eller interlocken fejeler. Undgå direkte eksponering til stråling. (d)
VARNING : Synlig och osynling laserstrålning när den öppnas och spärren är urkopplad. Betrakta ej strålen. (s)
VARO : Avattaessa ja suojalukitus ohitettuna tai viallisena olet alttiina näkyvälle ja näkymättömälle lasersäteilylle. Vältä säteen kohdistumista suoraan itseesi. (f)


CAUTION : Visible and Invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)
VARO : Avattaessa ja suojalukitus ohitettuna tai viallisena olet alttiina näkyvälle ja näkymättömälle lasersäteilylle. Vältä säteen kohdistumista suoraan itseesi. (f)
VARNING : Synlig och osynling laserstrålning när den öppnas och spärren är urkopplad. Betrakta ej strålen. (s)
ADVARSEL : Synlig og usynlig laserstråling når maskinen er åben eller interlocken fejeler. Undgå direkte eksponering til stråling. (d)

SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

This service manual does not describe SPECIFIC SERVICE INSTRUCTIONS.

SECTION 3
DISASSEMBLY

3.1 Disassembly of the main blocks of the set

Replacement of the fuses and the power IC

3.1.1 Replacing the fuses (See Fig.1)

- Prior to performing the following procedure, remove the left side BOARD.
  (1) Replace the fuses inside.

Caution:
Be sure to use fuses with the specified ratings.

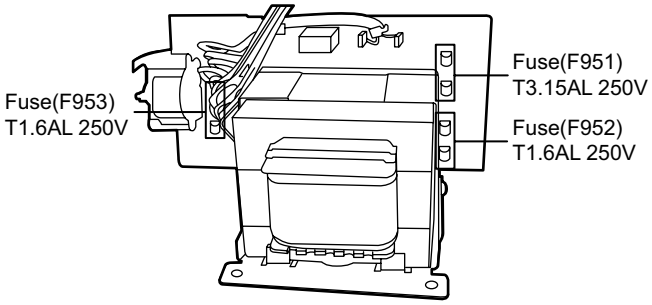


Fig.1

3.1.2 Replacing the power IC (See Fig.2)

- Prior to performing the following procedure, remove the top cover.
  (1) Remove the two screws **A** from the heat sink between the power IC.
  (2) Remove the solder fixing the power IC.

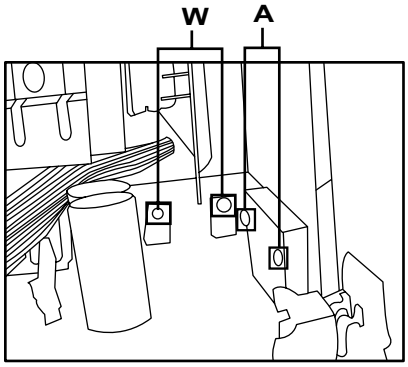


Fig.2

3.1.3 Replacing the heat sink cover (See Fig.3)

(1) Remove four screws **B** from the rear panel.
(2) Pull the heat sink cover outward.

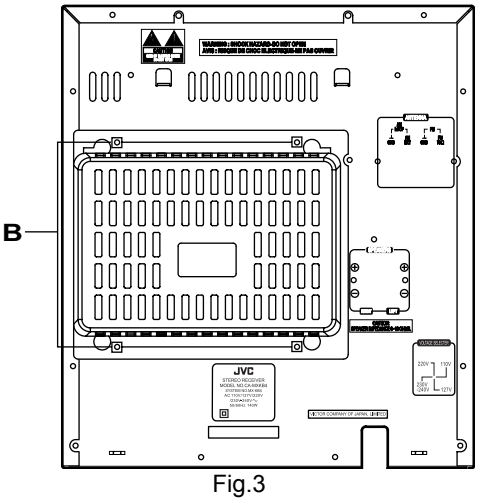


Fig.3

3.1.4 Removing the top cover (See Fig.4 and 5)

(1) Remove six screws **C** that retain the top cover from the panel rear of the body.
(2) Remove six screws **D** that retain the top cover from the two sides of the body.
(3) Remove the top cover from the body by lifting it toward the rear.

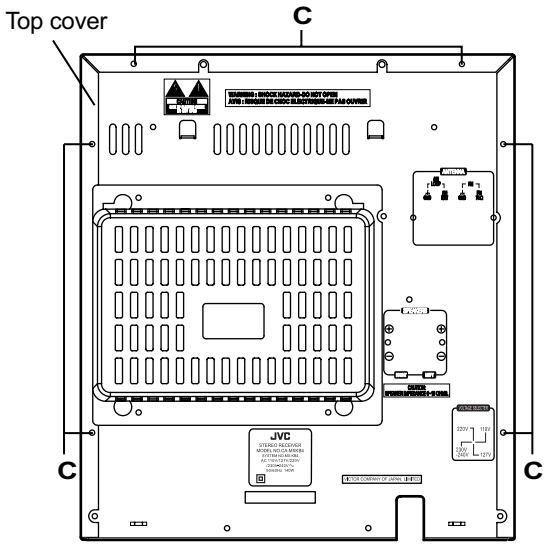


Fig.4

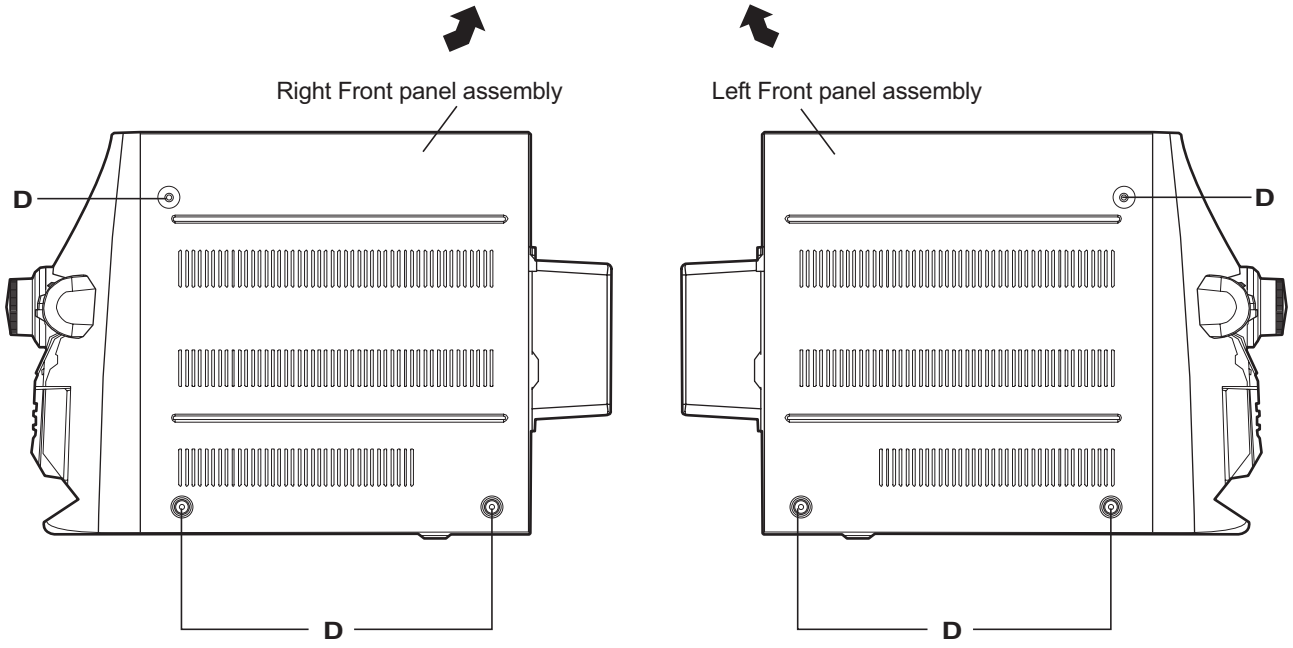


Fig.5

3.1.5 Removing the CD changer unit (See Fig.6 to 9)

- Prior to performing the following procedures, remove the top cover.

Caution:

Although the CD mechanism unit can be removed without removing the CD tray panel, it is still recommended to remove it in order to prevent damage.

a. From the front panel side of this set, push in the sections marked with arrows and pull out the CD tray toward the front.

b. Remove the CD tray panel by pushing both of its extremities upward in the direction of the arrows.

c. Push the CD tray deep into the set.

(1) Disconnect the cord wires from the CD PCB CN703 and CN203.

(2) From the rear of the set, remove two screws **E**, two screws **F** and four screws **G** on the front panel left and right side.

(3) Handle the CD changer unit rear, take out the unit.

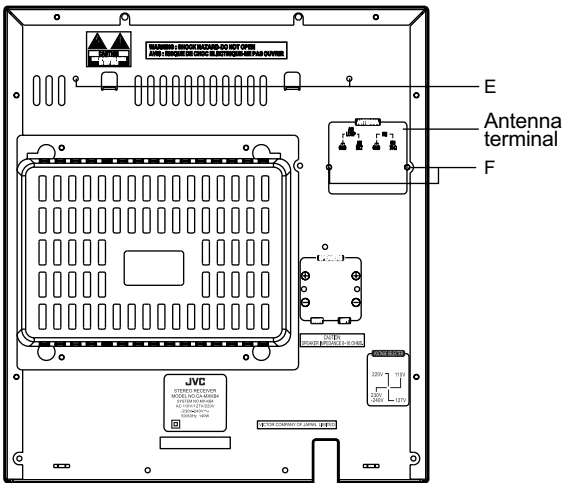


Fig.8

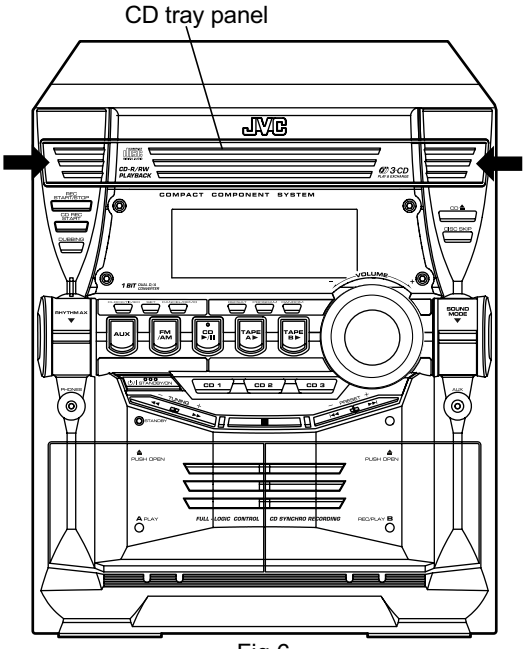


Fig.6

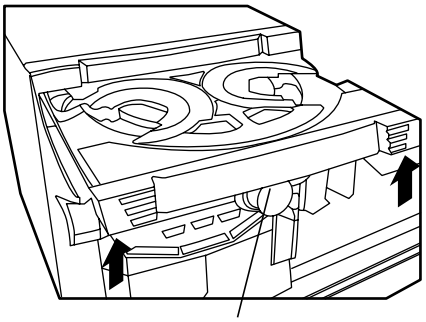


Fig.7

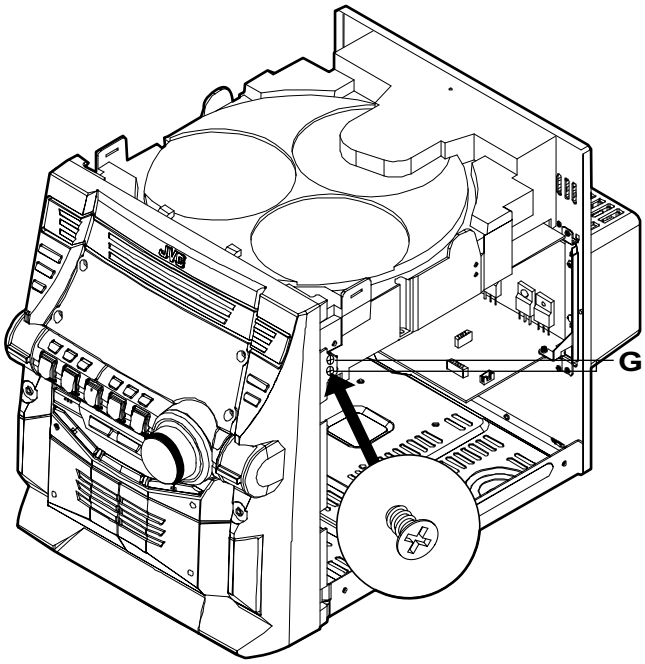


Fig.9

3.1.6 Removing the front panel assembly (See Fig.10 to 11)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.

(1) Disconnect the parallel wire and the cord wire from the connectors CN701, CN101 on the power amp. PCB.
(2) Remove one screws **H** retaining the front panel assembly onto the bottom of the body.
(3) Remove two screws **I** on the left and right side of the set retaining the panel front from the bottom and then remove then GND lug **b** that comes from the power amp and supply PCB.
(4) Disengage the claws **c** on both sides of the front panel assembly and then remove the assembly.

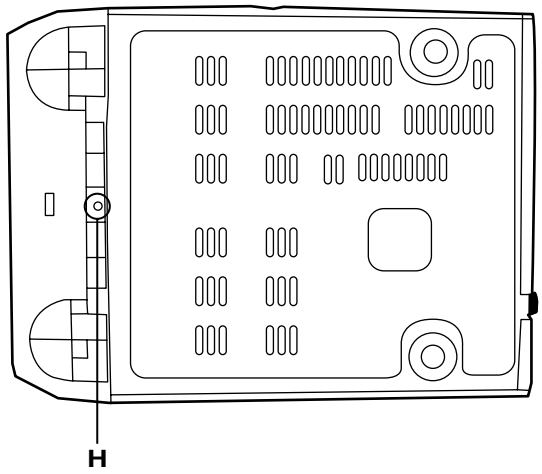


Fig.10

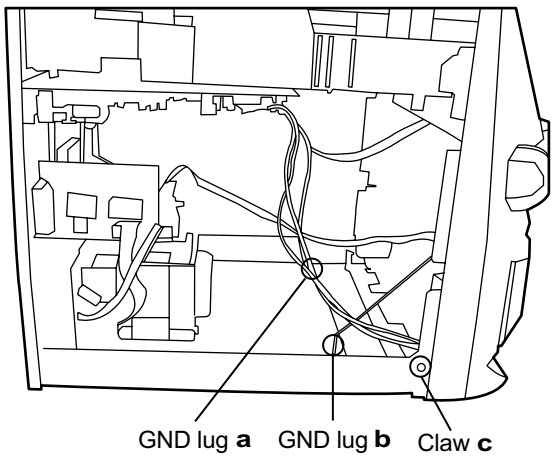


Fig.11

3.2 Disassembly of units and assembly inside this set

3.2.1 Removing the Main PCB (See Fig.12 to 13)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.

(1) Disconnect the wires from CN603A, CN603B and CN604 on thePAIN PCB, which is located on the back side of the CD changer unit.

(2) The four screws **J** that retain the CD PCB should be removed.

(3) Remove the CD PCB by pulling it toward the side where the CN601 is located.

(4) Using solder, short the CD pickup to connect to short round.

Caution:

After re-connecting the wires, be sure to remove the shorting solder from the GND connection.

(5) Disconnect the card wire from the connector CN601 on the main PCB and then remove the main PCB.

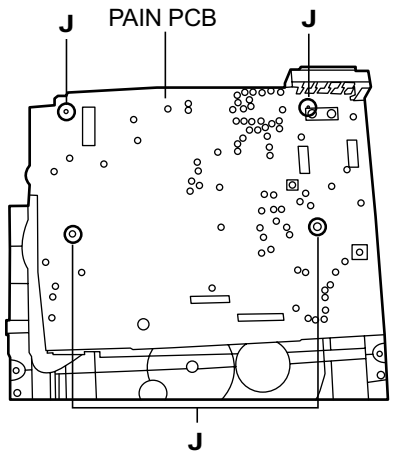


Fig.12

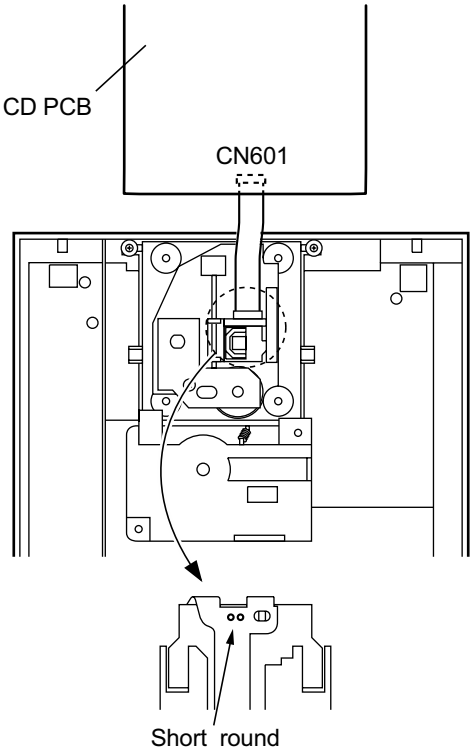


Fig.13

3.2.2 Removing the CD changer mechanism assembly (See Fig.14 to 15)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.

(1) Turn the CD changer mechanism cover base and remove the screws **d** connecting the unit to the CD changer mechanism assembly.

(2) Removing four screws **e** retaining the CD mechanism holder assembly.

Caution:

When replacing the CD changer mechanism assembly, be sure not to mistake the positions of the silver color and copper color spring.

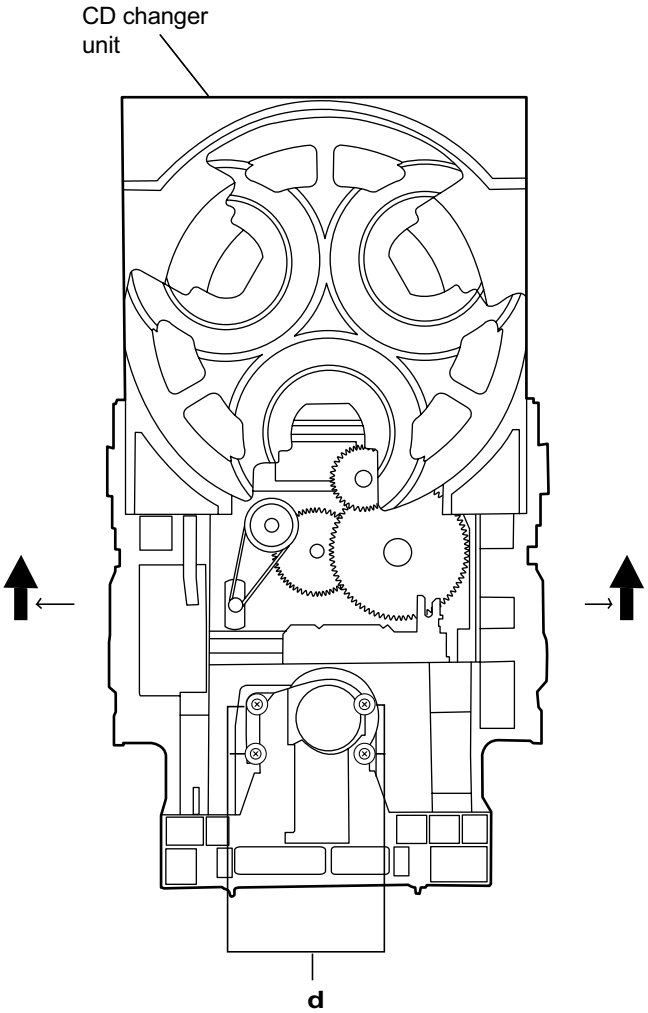


Fig.14

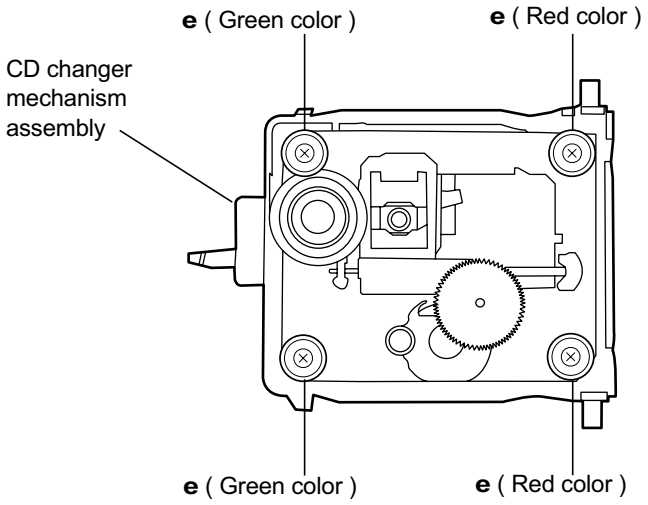


Fig.15

3.2.3 Removing the CD pickup (See Fig.16)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.
- Also remove the CD changer mechanism.
  (1) Widen the section **f**.
  (2) While keeping the section **f** wide open, push the section **g** in the direction of the arrow to remove the shaft, and then remove the CD pickup.

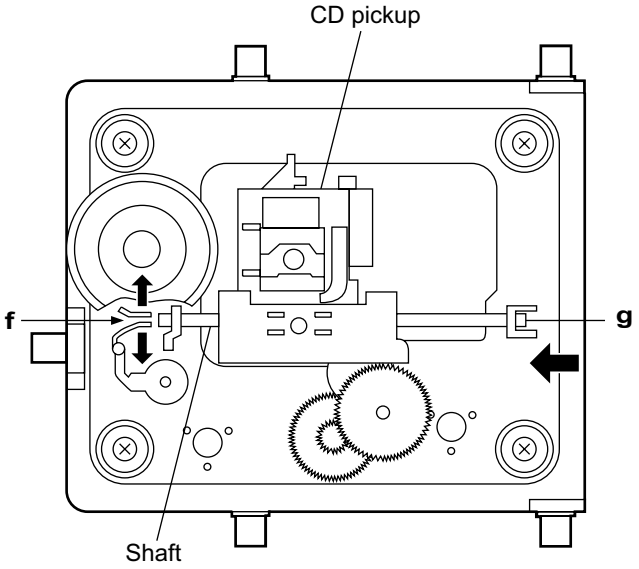


Fig.16

3.2.4 Replacing the loading motor and rotor belt of the CD changer (See Fig .17)

- Prior to performing the following procedures, remove the top cover.
- Also open the CD changer tray.
  (1) Remove the two screws **L** retaining the CD changer tray loading motor.
  (2) Remove the two screws **M** retaining the gear plate and take it out, after remove the rotor belt from the pulley.

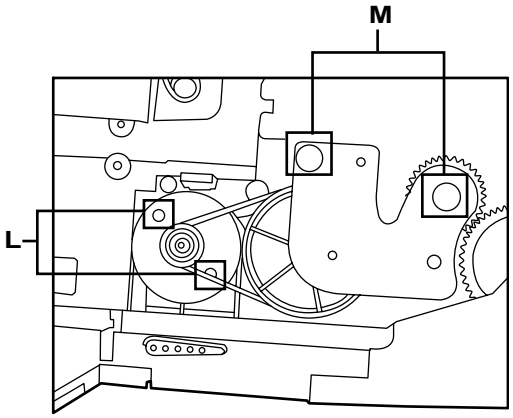


Fig.17

3.2.5 Replacing the CD turn table and removing the motor (See Fig.18)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.
  (1) Remove the one screws **N** retaining the CD (Turn table).
  (2) Remove the two screws **O** retaining the stopper brackets on both sides of the CD changer unit.
  (3) Remove the stopper brackets from both sides of the CD changer unit.
  (4) Pull out the CD tray from the CD changer unit, all the way and lift the tray (upward) to remove.
  (5) Remove the gear and after push out the tray motor locker and pull out the tray motor from the CD tray.

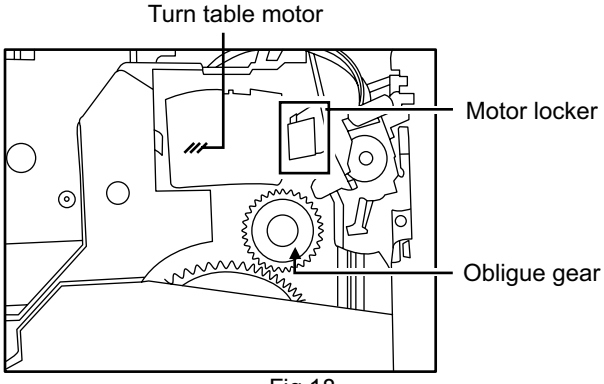


Fig.18

3.2.6 Removing the cassette deck mechanism (See Fig.19)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.
- Also remove the front panel assembly.
  (1) Remove six screws **Z** retaining the cassette deck mechanism.

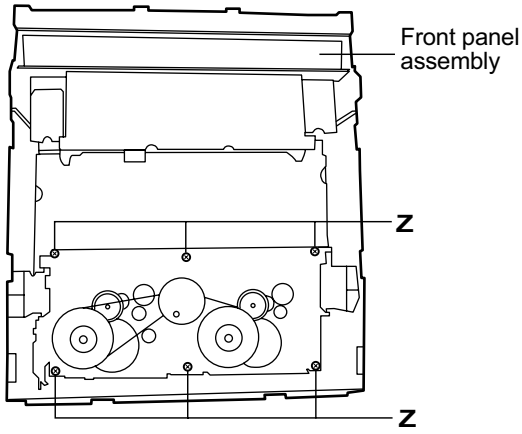


Fig.19

3.2.7 Removing the Key open board & the Key REC PCB (See Fig.20)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.
- Also remove the front panel assembly.
  (1) Remove two screws **P** that retains the Key open PCB.
  (2) Remove three screws **L** that retains the Key REC PCB.

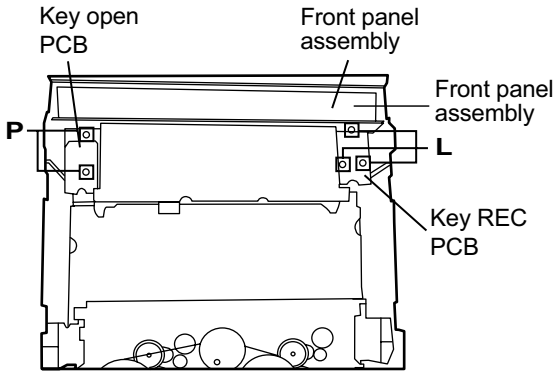


Fig.20

3.2.8 Removing the display PCB (See Fig.21)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.
- Also remove the front panel assembly.
  (1) Remove six screws **Q** that retain the display PCB from the back of the front panel unit.

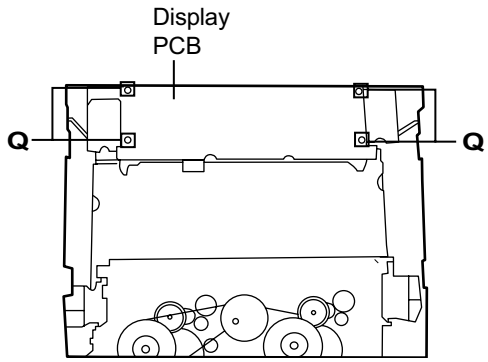


Fig.21

3.2.9 Removing the Switch PCB and sound mode and CD function switch PCB (See Fig.20 to 23)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.
- Also remove the front panel assembly.
  (1) Pull out the volume control knob from the front of the front panel assembly.(Fig.22)
  (2) Remove six screws **Q** retaining the front panel assembly.
  (3) Remove the Control/FL PCB.
  (4) Remove eleven screws **R** retaining the switch (key 1) PCB.(Fig.20)
  (5) Remove two screws **S** retaining the sound mode and CD function (key 2) switch board.(Fig.21)

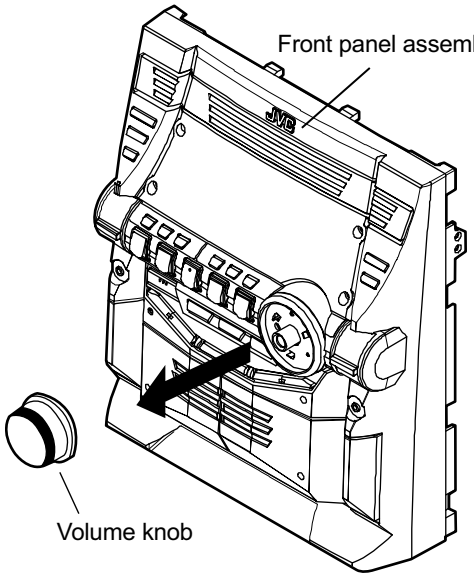


Fig.22

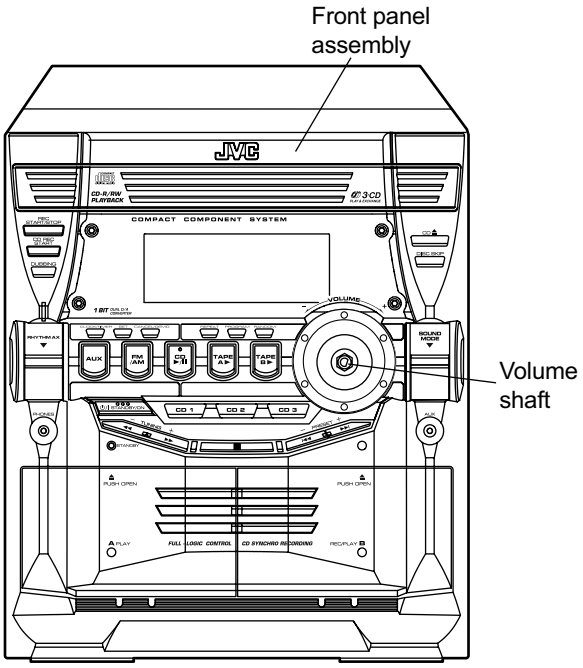


Fig.23

3.2.10 Removing the cassette deck main motor, and replacing the main belts (See Fig.19, 24 and 25)

- Prior to performing the following procedures, remove the top cover and both sides board.
- Also remove the CD changer unit.
- Also remove the front panel assembly.

(1) Remove six screws **Z** retaining the cassette deck mechanism. (Fig.19)
(2) Remove the cassette deck mechanism.
(3) Remove two screws **t** retaining the main motor from the front side of the cassette deck.

Caution:
After attaching the main motor, check the orientation of the motor and the polarity of the wires.

(4) From the backside of the cassette deck, remove the main motor and two main belts.

Caution:
The lengths of the cassette A(playback only) and cassette B(record/play) main belts are different. When attaching the main belts, use the longer belt for cassette A.

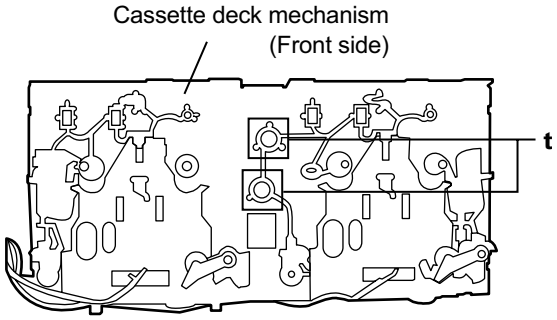


Fig.24

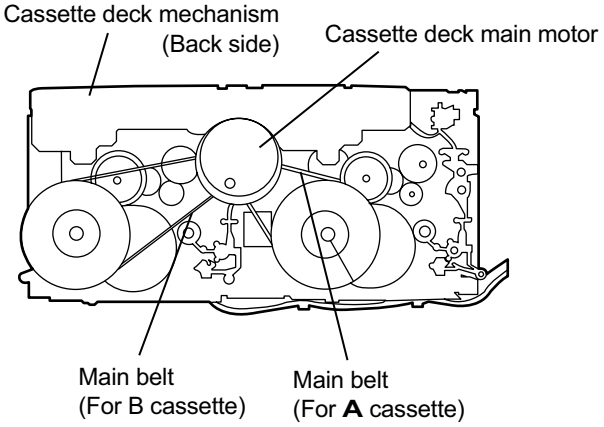


Fig.25

3.2.11 Removing the leaf switches of the cassette deck mechanism (See Fig. 19 and 26)

- Prior to performing the following procedures, remove the top cover and both sides board.
- Also remove the CD changer unit.
- Also remove the front panel assembly.

(1) Remove the six screws **Z** that retain the cassette deck mechanism. (Fig.19)
(2) Remove the cassette deck mechanism.
(3) Turn the cassette deck mechanism upside down.
(4) Remove the solder from around the leaf switches.
(5) Pull out the leaf switches from the front side of the cassette deck mechanism.

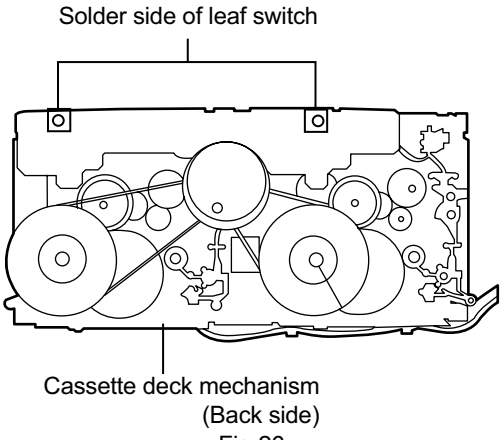


Fig.26

3.2.12 Removing the cassette deck heads (See Fig. 19 and 27)

- Prior to performing the following procedures, remove the top cover and both sides board.
- Also remove the CD changer unit.
- Also remove the front panel assembly.
  (1) Remove six screws **Z** that retain the cassette deck mechanism. (Fig.19)
  (2) Remove the cassette deck mechanism and place it so that the front side faces up.
  (3) Remove the solder from the bottom side of the head terminal and disconnect the wire.
  (4) Remove screws **U** that retains the head.
  (5) Remove screws **V** that retains the head.
  (6) Hold the head and slide it in the direction of the arrow to remove it.

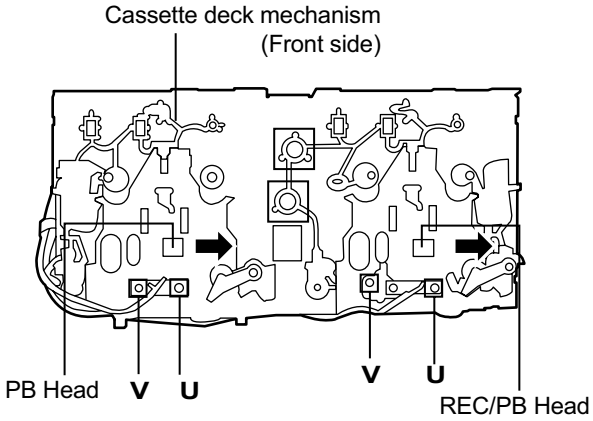


Fig.27

3.2.13 Removing the 3-pin regulator and bridge diode (See Fig. 28)

- Prior to performing the following procedures, remove the top cover and both sides board.
  (1) Remove two screws **A** that connect the heat sink.
  (2) Remove two screws **W** that connect the heat sink.
  (3) Remove the solder fixing the the 3-pin terminal regulator Q904, Q907.
  (4) Remove the solder fixing the 4-pin bridge diode (D901, D914).

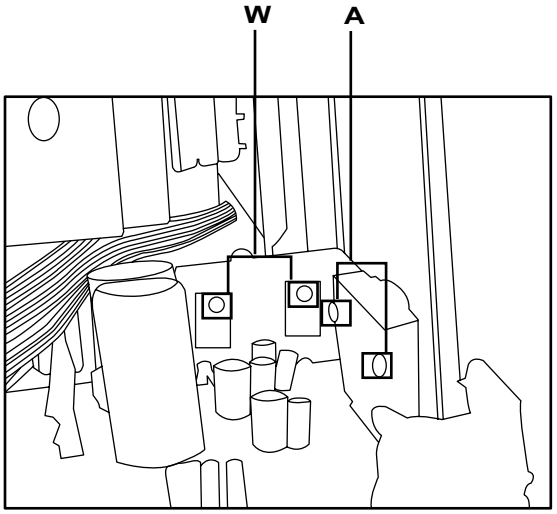


Fig.28

3.2.14 Removing the Power amp and supply PCB and the power trans PCB (See Fig. 3, 29 to 31)

- Prior to performing the following procedures, remove the top cover and CD changer unit.
  (1) Remove four screws **B** from the rear panel. (Fig.3)
  (2) Pull the heat sink cover outward.
  (3) Remove four screws **AA** from the rear panel between the heat sink holder.
  (4) Remove four screws **YY** that retains the rear panel, and then remove the rear panel.
  (5) Disconnect the parallel wires from the connectors FW951 on the power trans PCB.
  (6) Remove screws **Z** that retain the power amp and supply PCB and then remove the assembly.
  (7) Remove the clamp of AC power cord from the chassis.
  (8) Remove four screws that retain the power trans PCB and then remove the assembly.

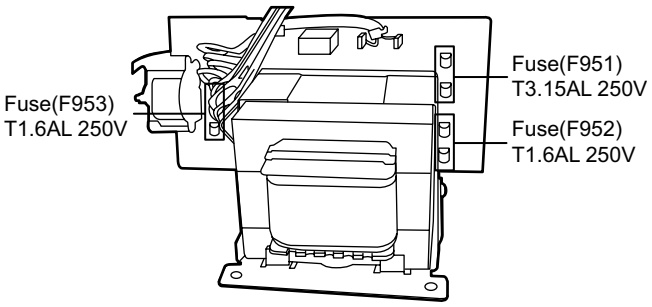


Fig.29

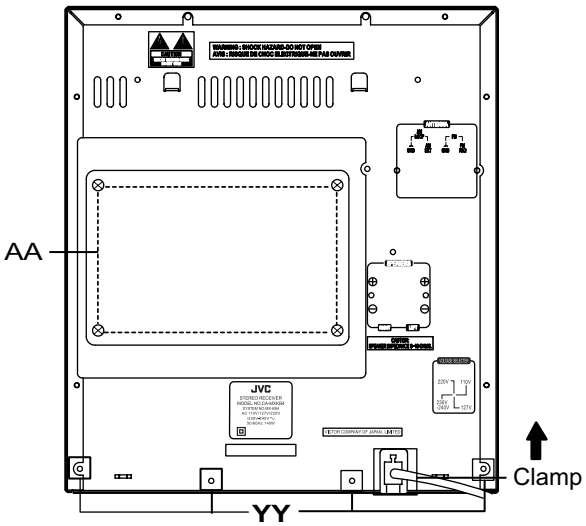


Fig.30

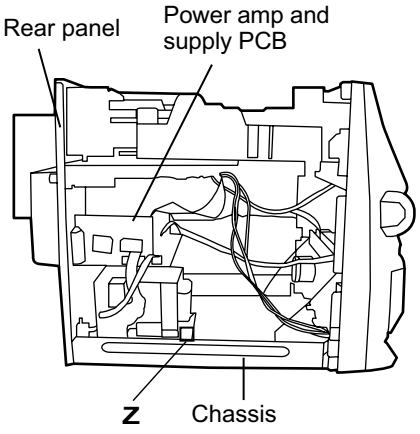


Fig.31

SECTION 4
ADJUSTMENT

4.1 Measurement Instruments Required for Adjustment

(1) Low frequency oscillator
This oscillator should have a capacity to output 0dBs to 600Ω at an oscillation frequency of 50Hz-20kHz.
(2) Attenuator impedance : 600Ω
(3) Electronic voltmeter
(4) Frequency counter
(5) Wow & flutter meter
(6) Test tape
VT712 : For Tape speed and wow flutter (3kHz)
VT703 : For Head angle (10kHz)
(7) Blank tape
TYPE I : AC-225
TYPE II : AC-514
(8) Torque gauge
For play and back tension forward; TW2111A
Reverse; TW2121A
Fast Forward and Rewind; TW2231A
(9) Test disc
CTS-1000(12cm)
GRG-1211(8cm)
(10) Jitter meter

4.2 Measurement conditons

Measurement output terminal	Speaker out TP101 (Measuring for TUNER/ DECK/CD) Dummy load 6Ω

4.2.1 Radio Input signal

AM modulation frequency	400Hz
Modulation factor	30%
FM modulation frequency	1 kHz
Frequency displacement	22.5kHz

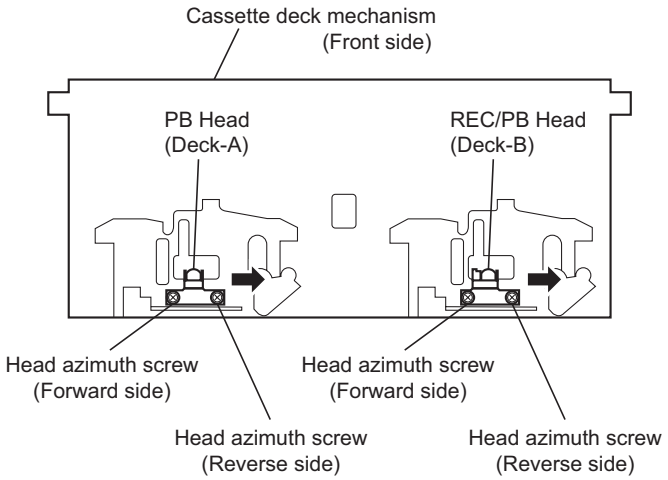
4.2.2 Standard measurement position of volume and switch

Power	Standby (Light STANDBY Indicator)
Sound Turbo,A,BASS EX	OFF
Sound mode	OFF
Main VOL.	0 Minimum
Travers mecha set position	Disc 1

Precautions for measurement

(1) Apply 30pF and 33kΩ to the IF sweeper output side and 0.082μ F and 100kΩ in series to the sweeper input side.
(2) The IF sweeper output level should be made as low as possible within the adjustable range.
(3) Since the IF sweeper is a fixed device, there is no need to adjust this sweeper.
(4) Since a ceramic oscillator is used, there is no need to perform any MIX adjustment.
(5) Since a fixed coil is used, there is no need to adjust the FM tracking.
(6) The input and output earth systems are separated. In case of simultaneously measuring the voltage in both of the input and output systems with an electronic voltmeter for two channels, therefore, the earth should be connected particularly carefully.
(7) In the case of BTL connection amp., the minus terminal of speaker is not for earthing. Therefore, be sure not to connect any other earth terminal to this terminal. This system is of an BTL system.
(8) For connecting a dummy resistor when measuring the output, use the wire with a greater code size.
(9) Whenever any mixed tape is used, use the band pass filter (DV-12).

4.3 Arrangement of adjusting positions



4.3.1 Tape recorder section

Items	Measurement conditions	Measurement method	Standard values	Adjusting positions
Cassette Head Azimuth Alignments	Test tape : VT703 (10kHz) Measurement output terminal : Left and Right speaker output (6-ohm loaded) or Headphone Output (32-ohm loaded)	1. Playback the test tape VT703 (10KHz) or equivalent. 2. Adjust the head azimuth screw to obtain maximum output and both output of L / R is in 3dB. 3. Put on the screw lock paint after alignments.	Maximum output	Adjust the head azimuth screw only when the head has been changed.
Recording Bias Frequency Alignment	Test tape : TYPE I AC-514 Measurement output terminal : Erase head terminal (CN308 8-Pin)	1. Insert the recording tape in deck-B. 2. Starting the recording. 3. Adjust the oscillation frequency to 80KHz+/-3KHz by core of Oscillation coil of T401.	80kHz+/-3kHz	Use the High-Impedance Probe or Frequency counter input.

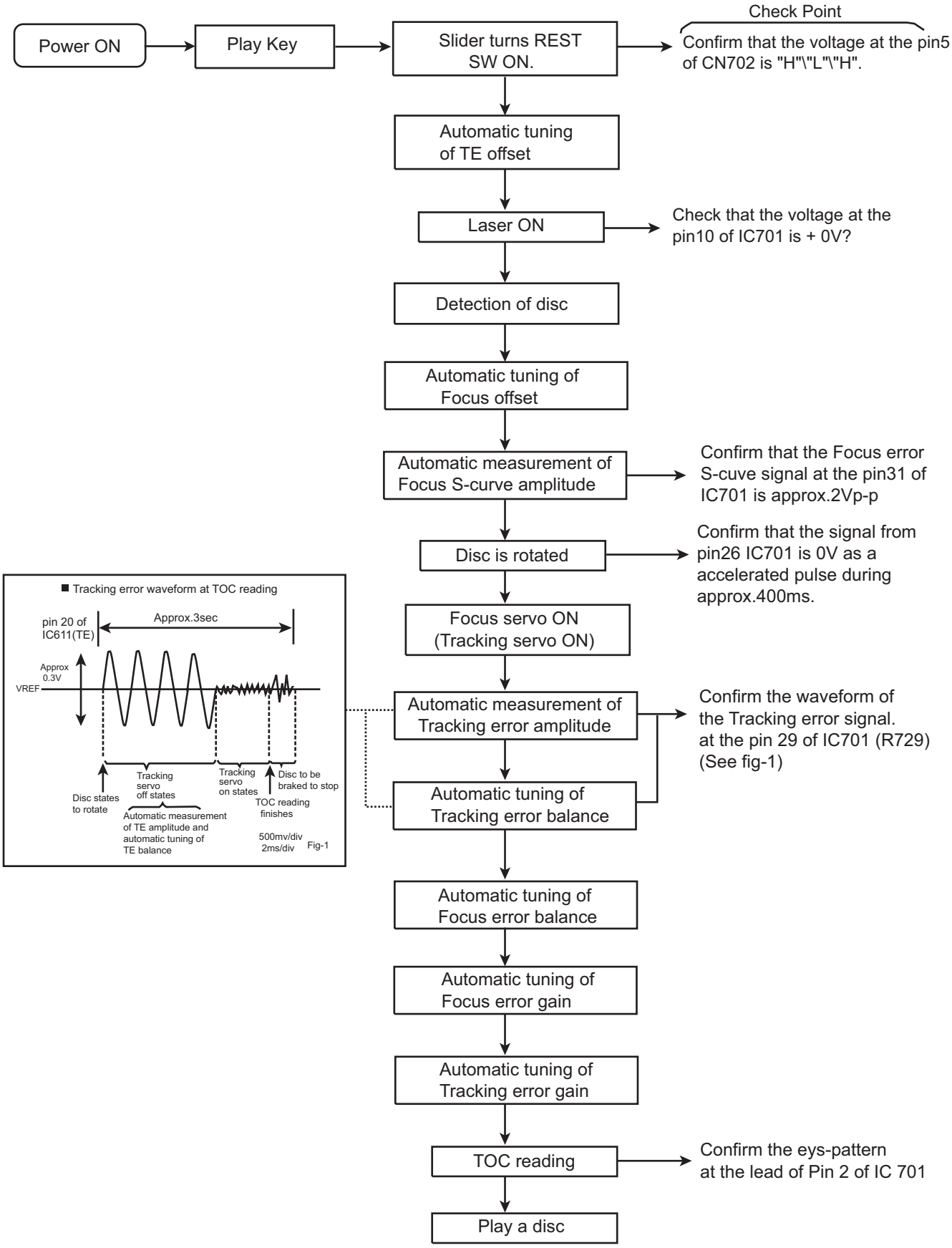
4.3.2 Tuner section

Items	Measurement conditions	Measurement method	Standard values	Adjusting positions
AM Tracking Alignments	Input signal : 531kHz 603kHz Adjustment point : Antenna coil (L2)	1. Set the Signal Generator signal to 531KHz the feed to Loop Antenna. 2. Receiving the signal and the adjust the OSC coil (L2) obtain the V.T is 1.40V +/-0.05V. 3. Change the receiving frequency to 600KHz (603KHz). 4. Adjust the Antenna coil (L2) obtain maximum sensitivity. (Adjust the SSG output to out of AGC range.)	V.T : 1.40V+/-0.05V Maximum sensitivity	Adjust the OSC coil only when the AM coil block has been changed.
AM IFT Alignments	Input signal : 531kHz Adjustment point : IFT (T1)	1. Set the receiving frequency to 531KHz. 2. Feed the 450KHz signal to AM antenna input. 3.Adjust the IFT Block T1 obtain to maximum output. (Adjust the SSG output to out of AGC range.)	Maximum output	Adjust the IFT only when the IFT block has been changed.

Note: The adjustment of CD section is not required.

SECTION 5
TROUBLESHOOTING

5.1 Flow of functional operation until TOC read

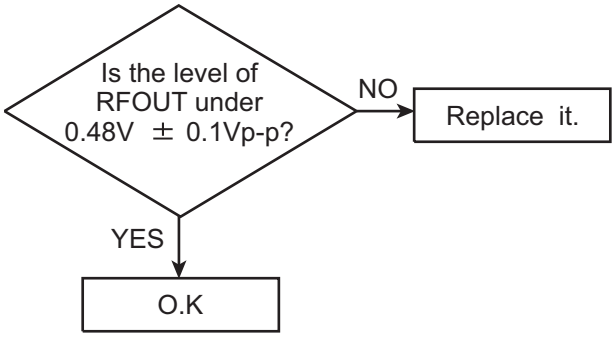

Power ON
Play Key
Slider turns REST SW ON.
Check Point
Confirm that the voltage at the pin5 of CN702 is "H"\"L"\"H".
Automatic tuning of TE offset
Laser ON
Check that the voltage at the pin10 of IC701 is + 0V?
Detection of disc
Automatic tuning of Focus offset
Automatic measurement of Focus S-curve amplitude
Confirm that the Focus error S-cuve signal at the pin31 of IC701 is approx.2Vp-p
Disc is rotated
Confirm that the signal from pin26 IC701 is 0V as a accelerated pulse during approx.400ms.
Focus servo ON (Tracking servo ON)
Automatic measurement of Tracking error amplitude
Confirm the waveform of the Tracking error signal. at the pin 29 of IC701 (R729) (See fig-1)
Automatic tuning of Tracking error balance
Automatic tuning of Focus error balance
Automatic tuning of Focus error gain
Automatic tuning of Tracking error gain
TOC reading
Confirm the eys-pattern at the lead of Pin 2 of IC 701
Play a disc
■ Tracking error waveform at TOC reading
pin 20 of IC611(TE)
Approx.3sec
Approx 0.3V
VREF
Disc states to rotate
Tracking servo off states
Tracking servo on states
Disc to be braked to stop
TOC reading finishes
Automatic measurement of TE amplitude and automatic tuning of TE balance
500mv/div
2ms/div
Fig-1

5.2 Maintenance of laser pickup

(1) Cleaning the pick up lens
Before you replace the pick up, please try to clean the lens with a alcohol soaked cotton swab.

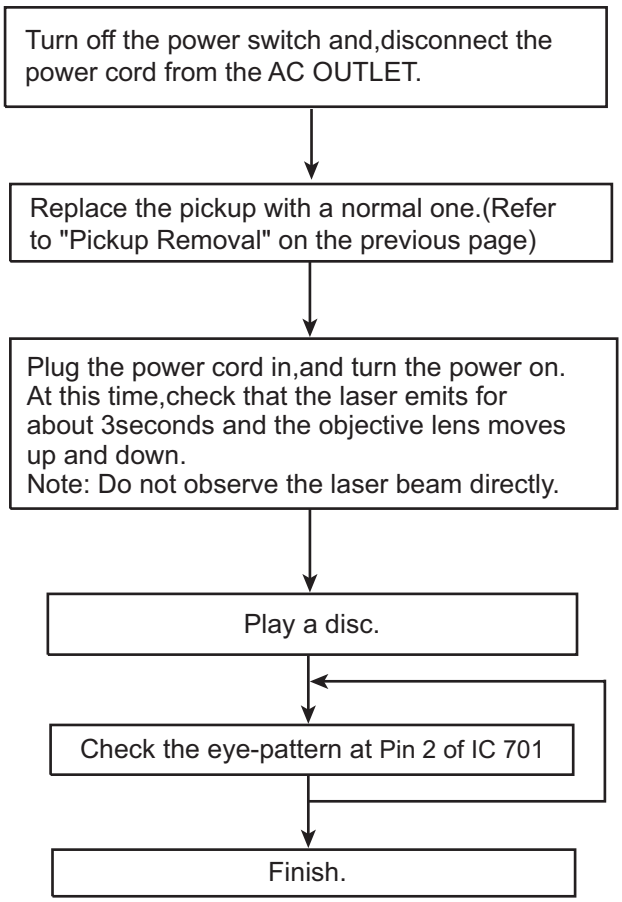
(2) Life of the laser diode
When the life of the laser diode has expired, the following symptoms will appear.

- The level of RF output (EFM output : ampli tude of eye pattern) will below.



(3) Semi-fixed resistor on the APC PC board
The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.
If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced.
If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.

5.3 Replacement of laser pickup


Turn off the power switch and,disconnect the power cord from the AC OUTLET.
Replace the pickup with a normal one.(Refer to "Pickup Removal" on the previous page)
Plug the power cord in,and turn the power on. At this time,check that the laser emits for about 3seconds and the objective lens moves up and down.
Note: Do not observe the laser beam directly.
Play a disc.
Check the eye-pattern at Pin 2 of IC 701
Finish.

JVC
Victor Company of Japan, Limited
AV & MULTIMEDIA COMPANY AUDIO/VIDEO SYSTEMS CATEGORY 10-1,1chome,Ohwatari-machi,Maebashi-city,371-8543,Japan

(No.MB254)

Printed in Japan
WPC

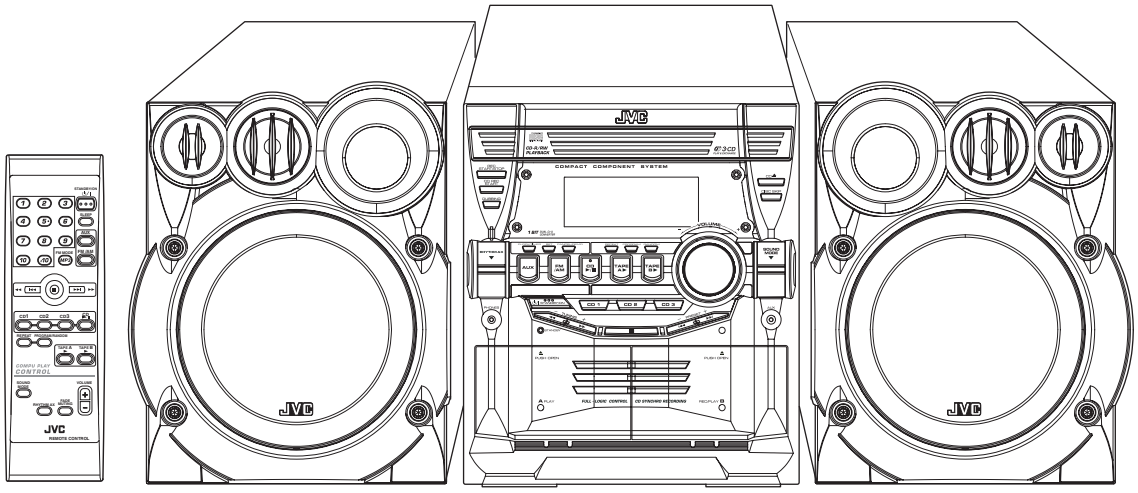
JVC

SCHEMATIC DIAGRAMS

COMPACT COMPONENT SYSTEM

MX-KB4

CD-ROM No.SML200407



SP-MXKB4 CA-MXKB4 SP-MXKB4

COMPACT disc DIGITAL AUDIO

Area suffix

UW ---------- Brazil,Mexico,Peru
UJ ---------- U.S.Military

Contents

Wiring diagram ---------- 2-1
Block diagram ---------- 2-2
Standard schematic diagrams ---------- 2-3
Printed circuit boards ---------- 2-9 to 13

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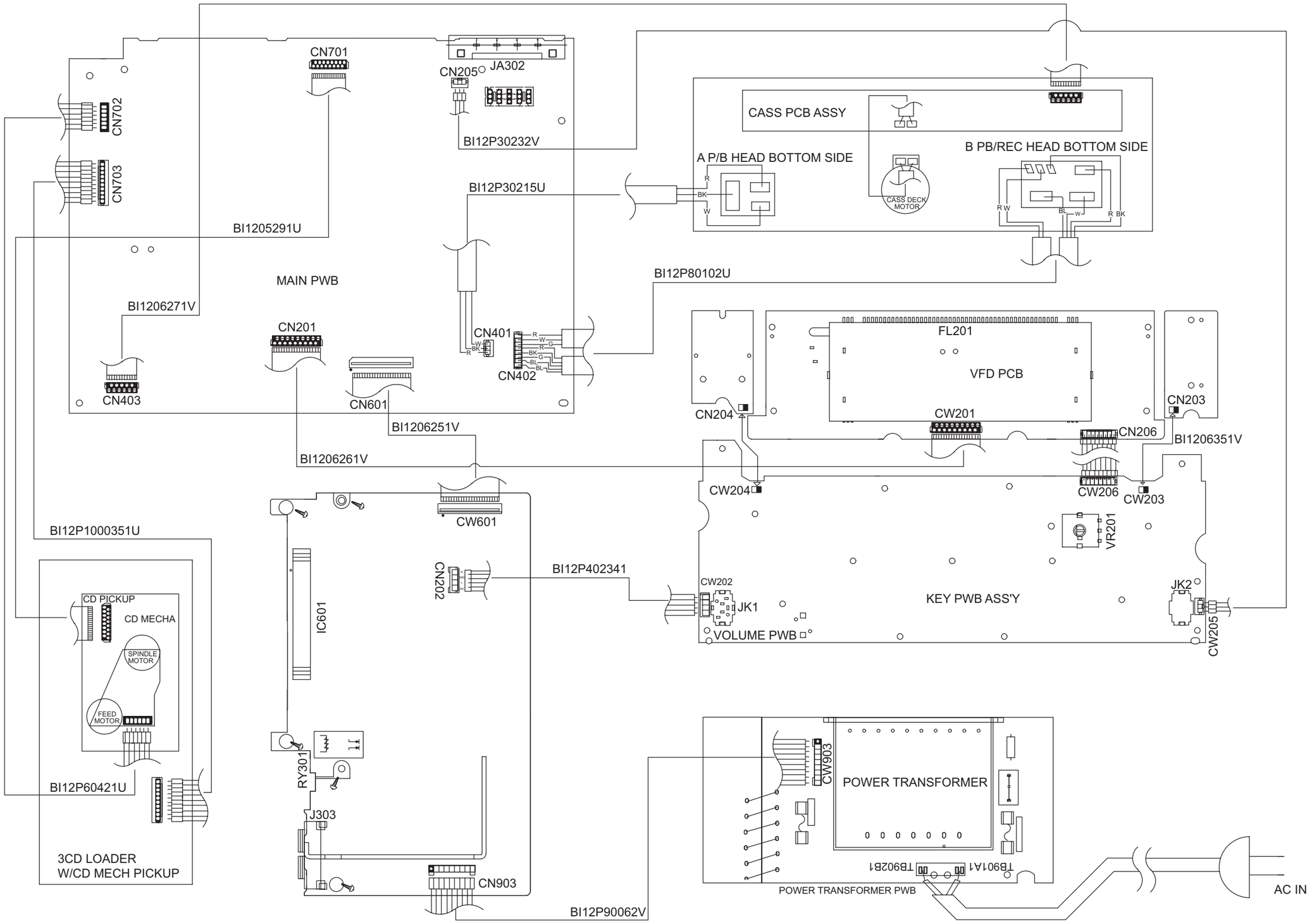
No.MB254SCH
2004/7

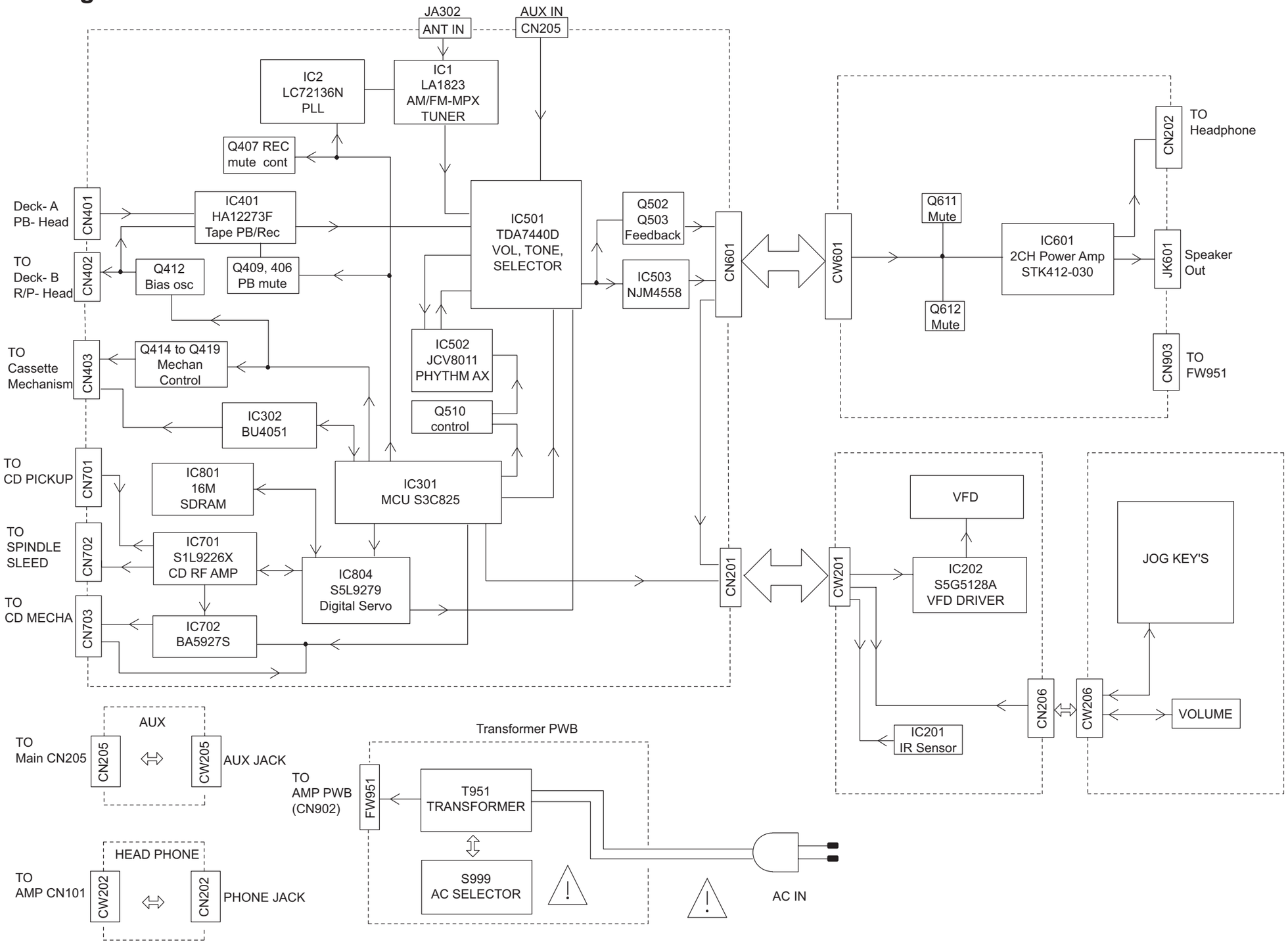
In regard with component parts appearing on the silk-screen printed side (parts side) of the PWB diagrams, the parts that are printed over with black such as the resistor (▬), diode (▬) and ICP (⬬) or identified by the "⚠" mark nearby are critical for safety.

(This regulation does not correspond to J and C version.)

Wiring diagram

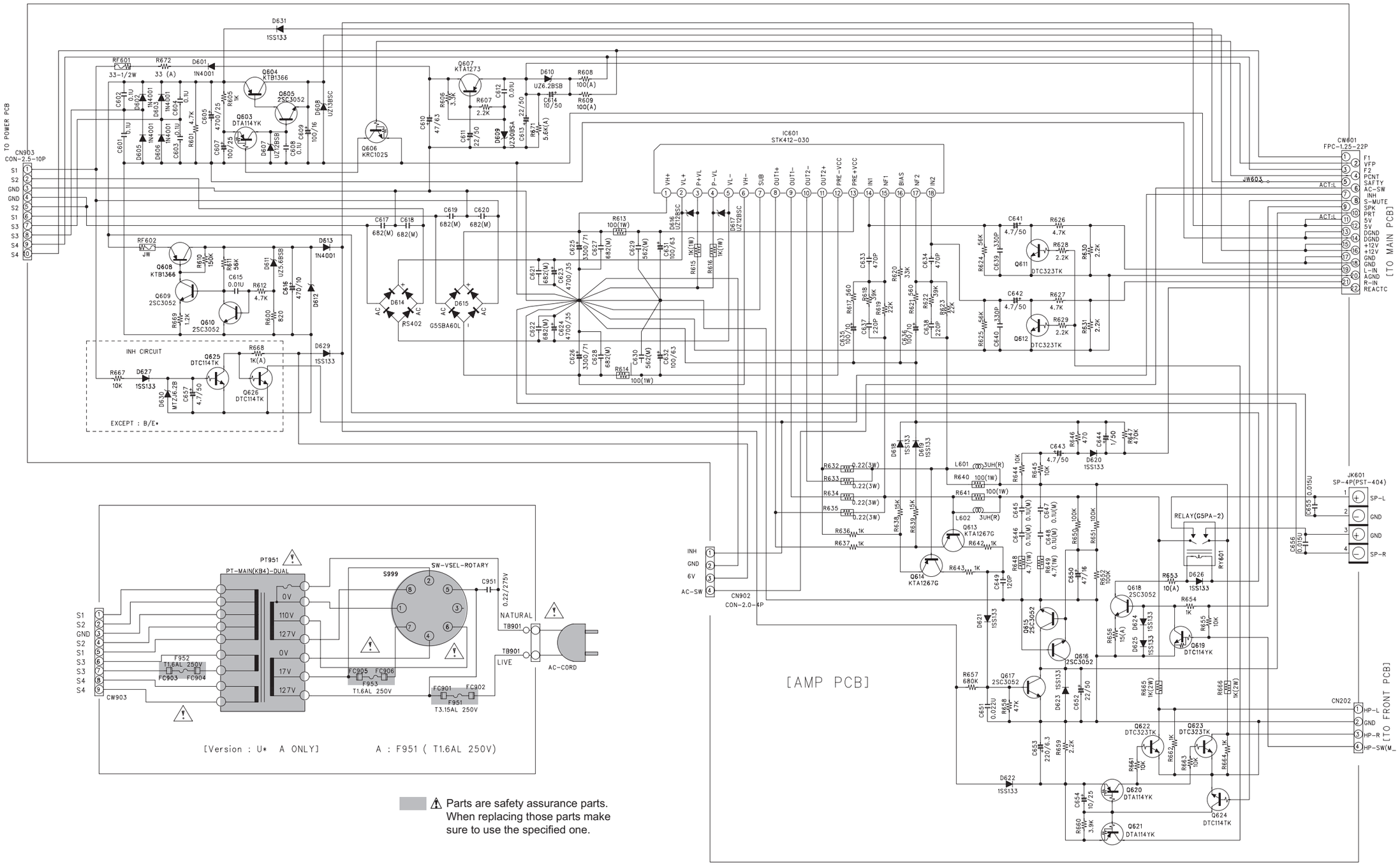


Block diagram

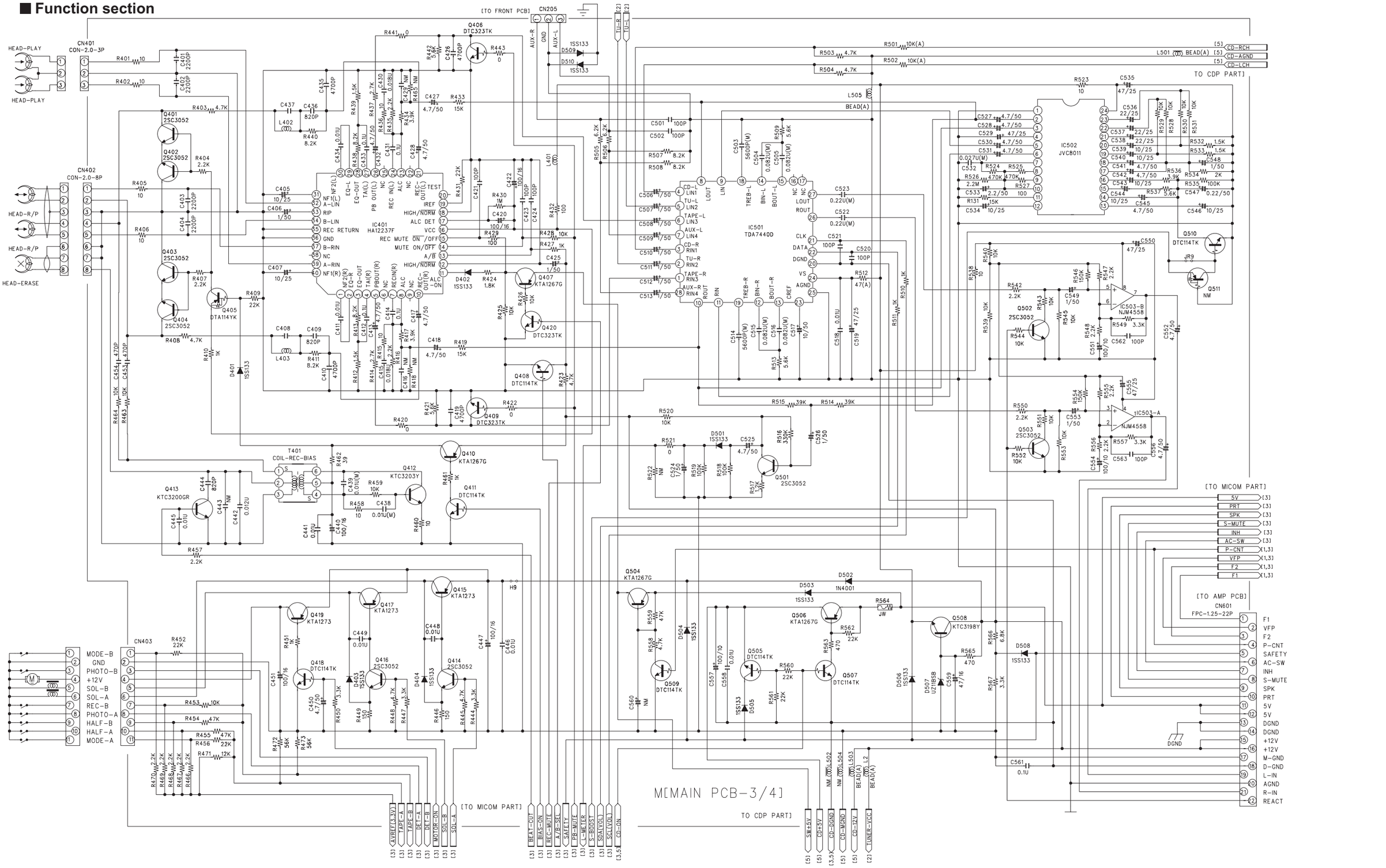


Standard schematic diagrams

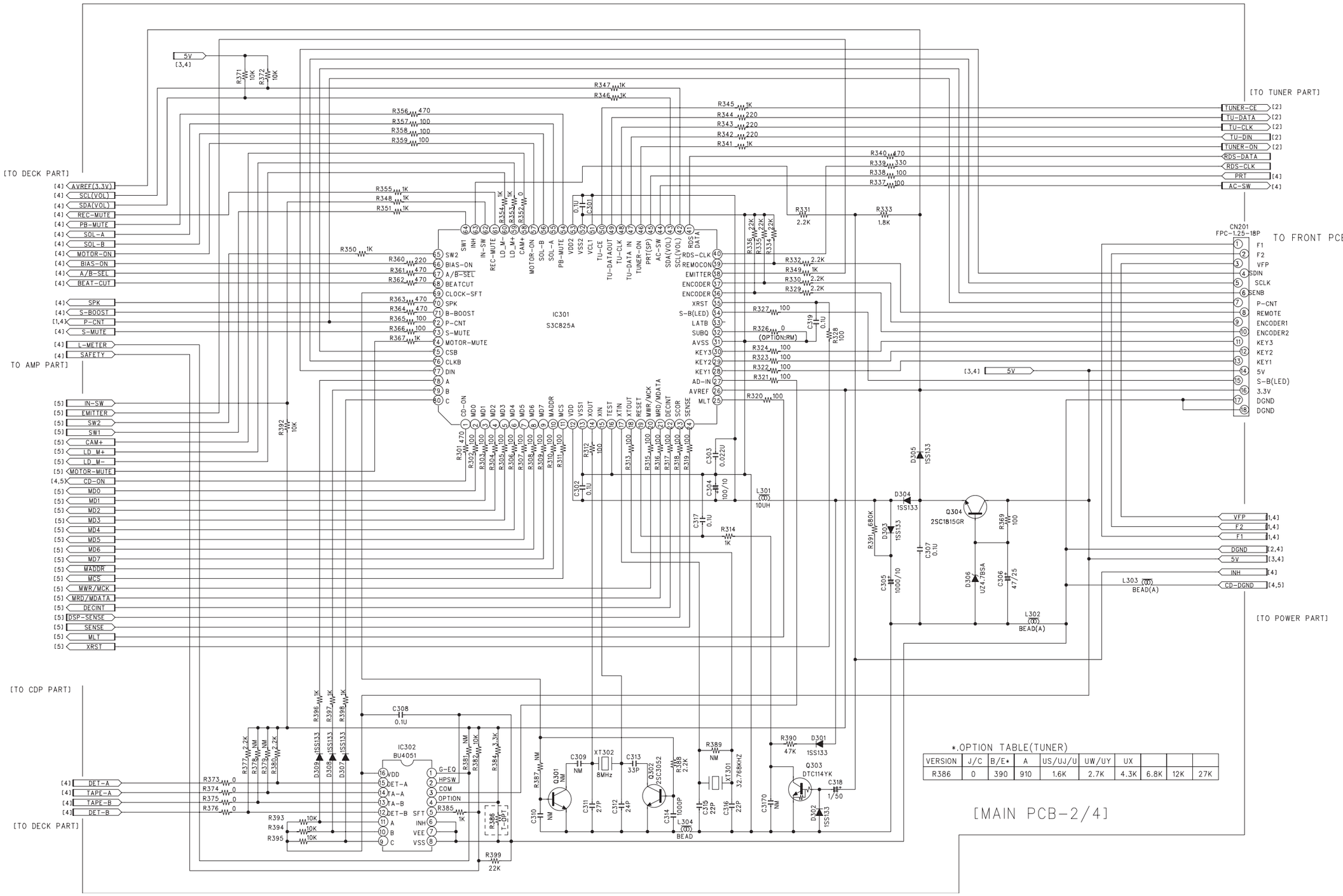
■ Amp section



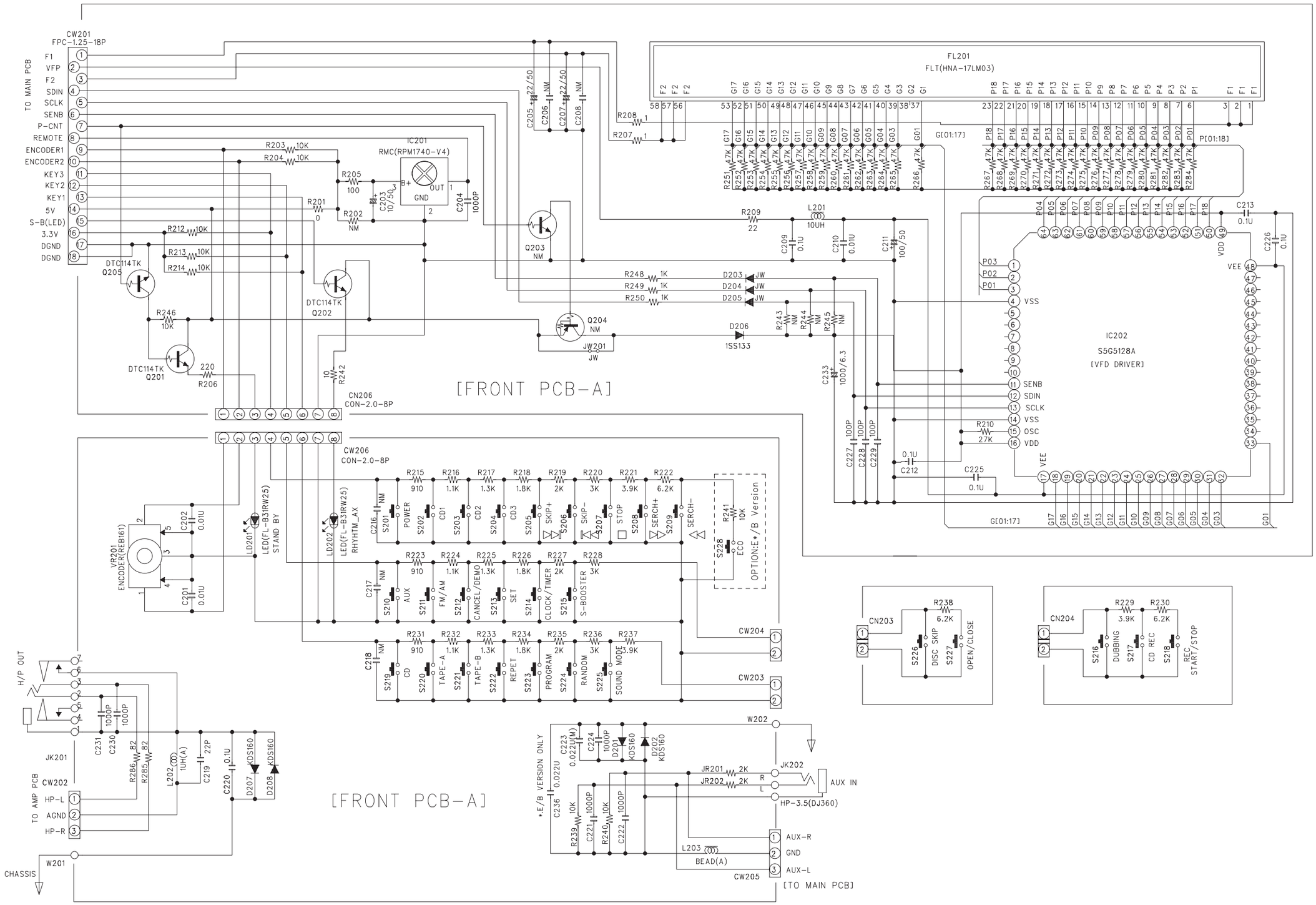
■ Function section



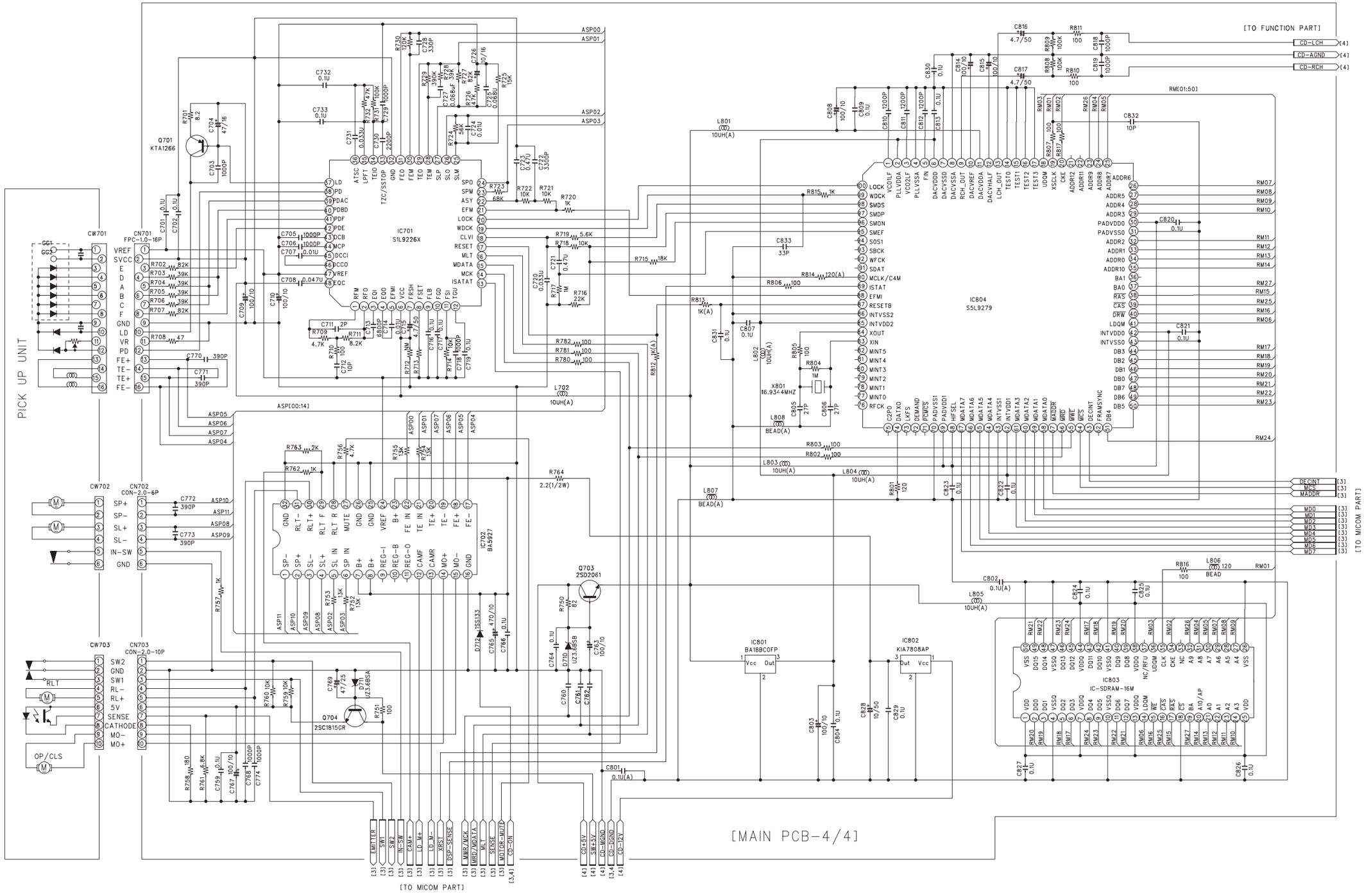
■ Micon section


[TO DECK PART]
[TO AMP PART]
[TO CDP PART]
[TO TUNER PART]
[TO FRONT PCB]
[TO POWER PART]
IC301
S3C825A
IC302
BU4051
CN201
FPC-1.25-18P
*.OPTION TABLE(TUNER)
VERSION | J/C | B/E* | A | US/UJ/U | UW/UY | UX | | | |
R386 | 0 | 390 | 910 | 1.6K | 2.7K | 4.3K | 6.8K | 12K | 27K
[MAIN PCB-2/4]

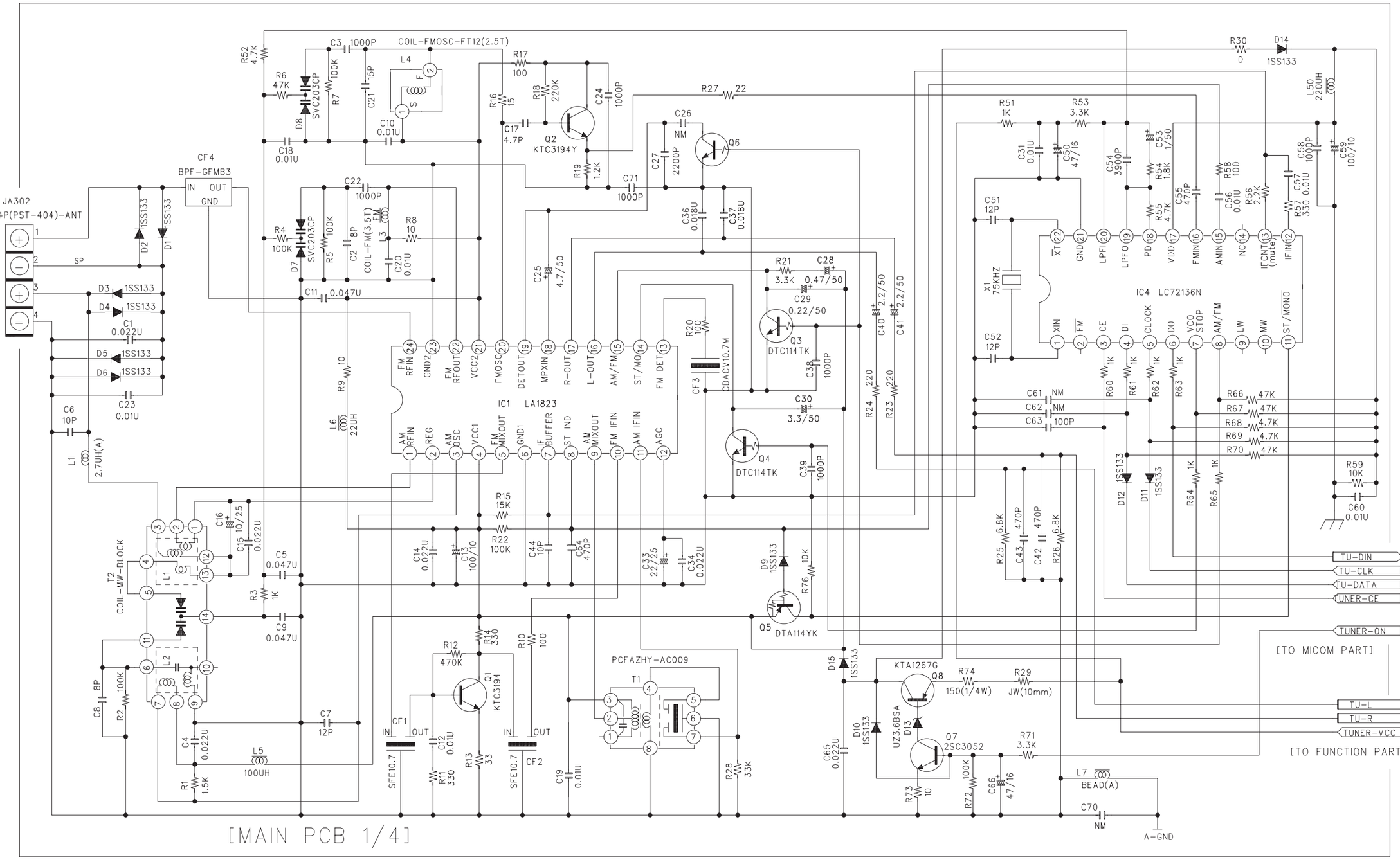
■ Front section



■ CD/MP3 section

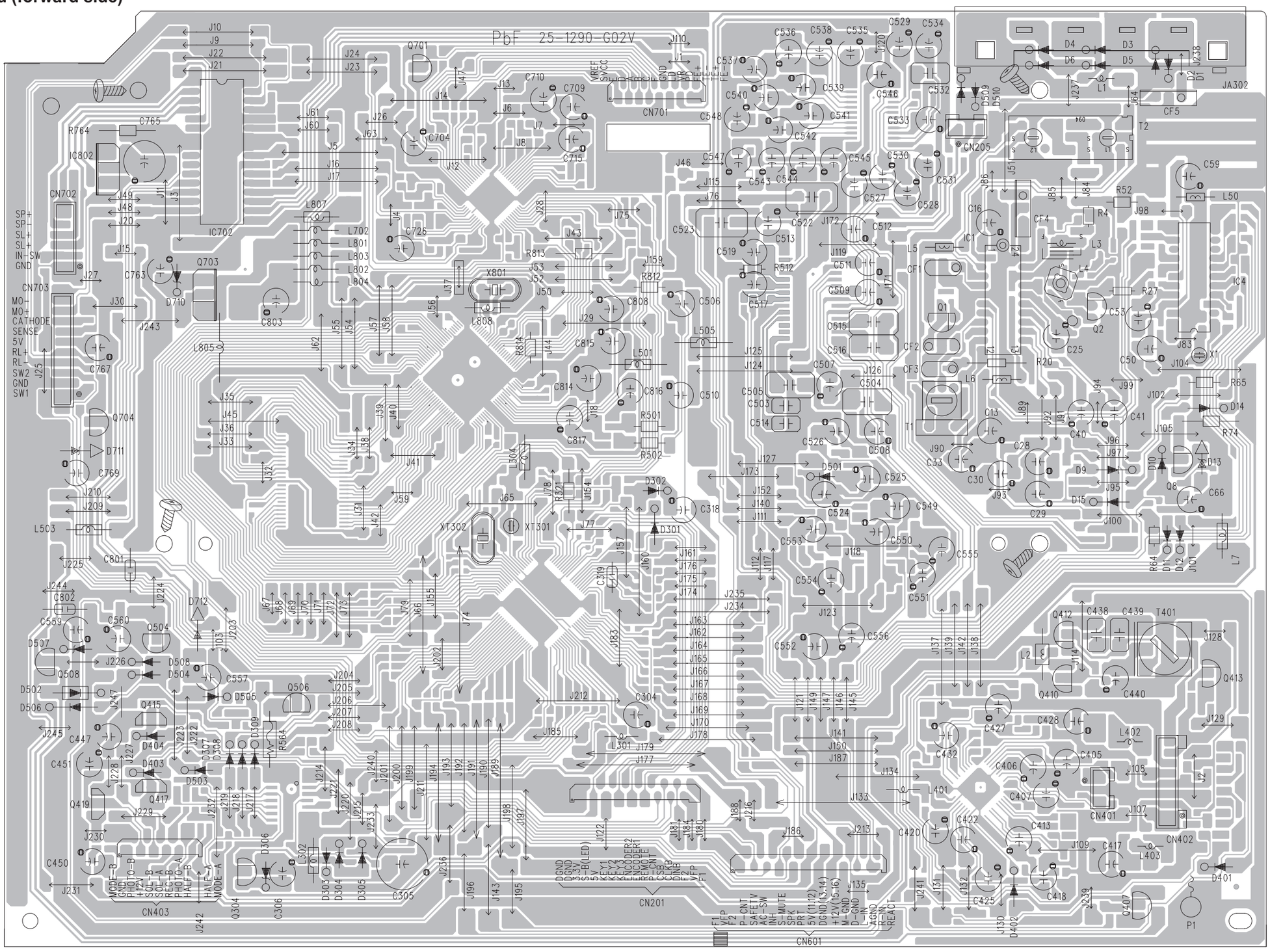


■ Tuner section

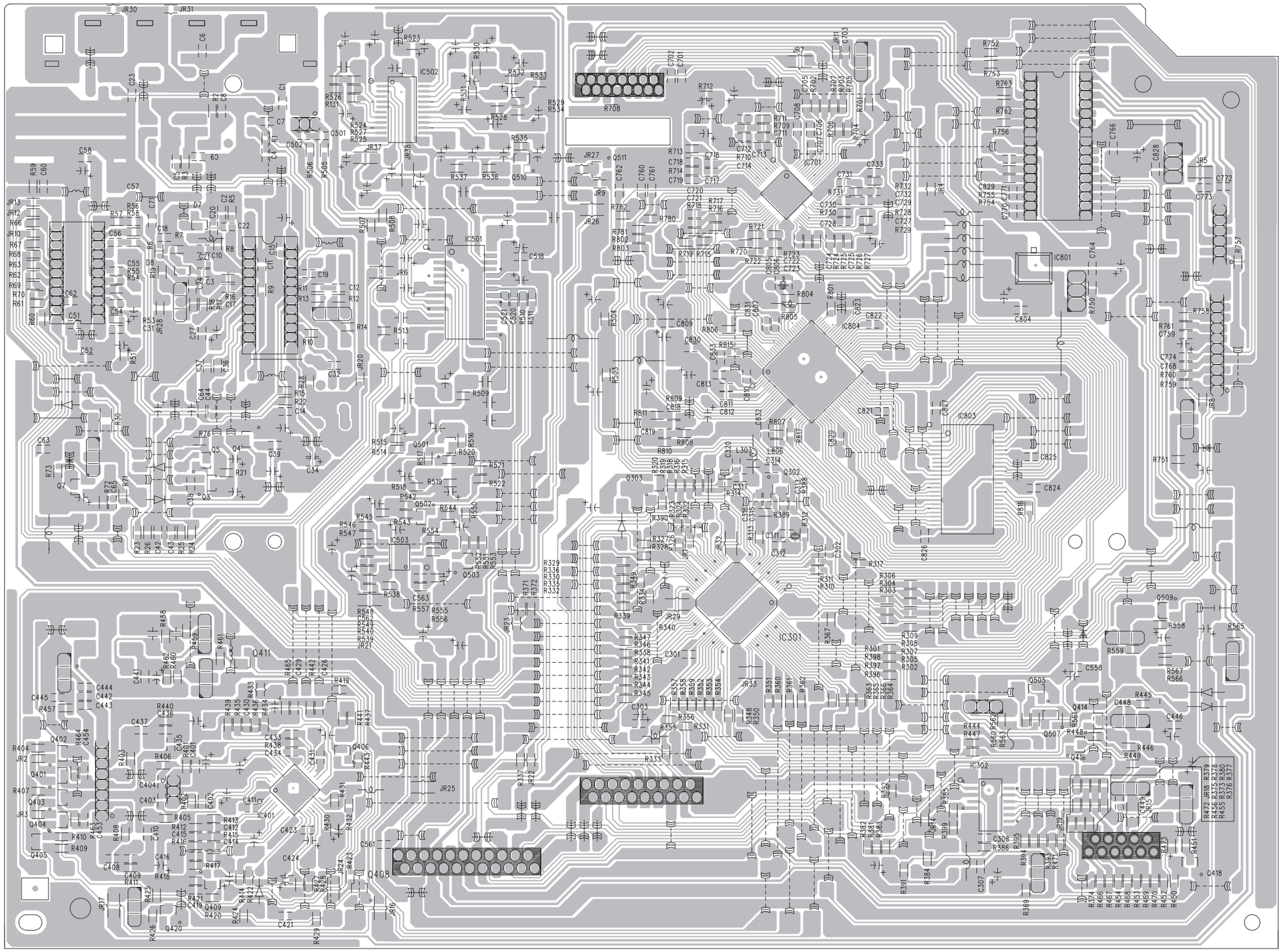


Printed circuit boards

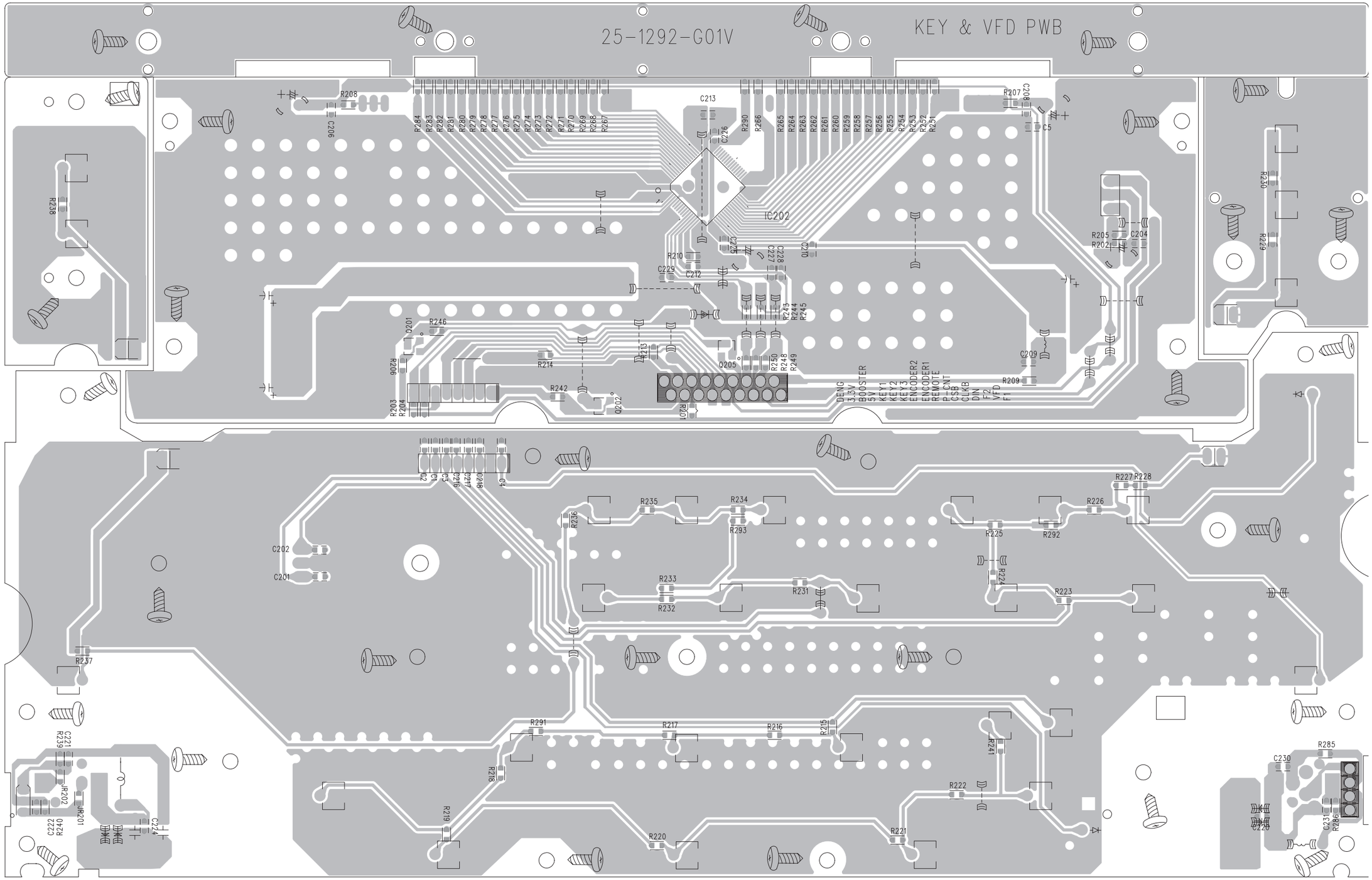
■ Main board (forward side)



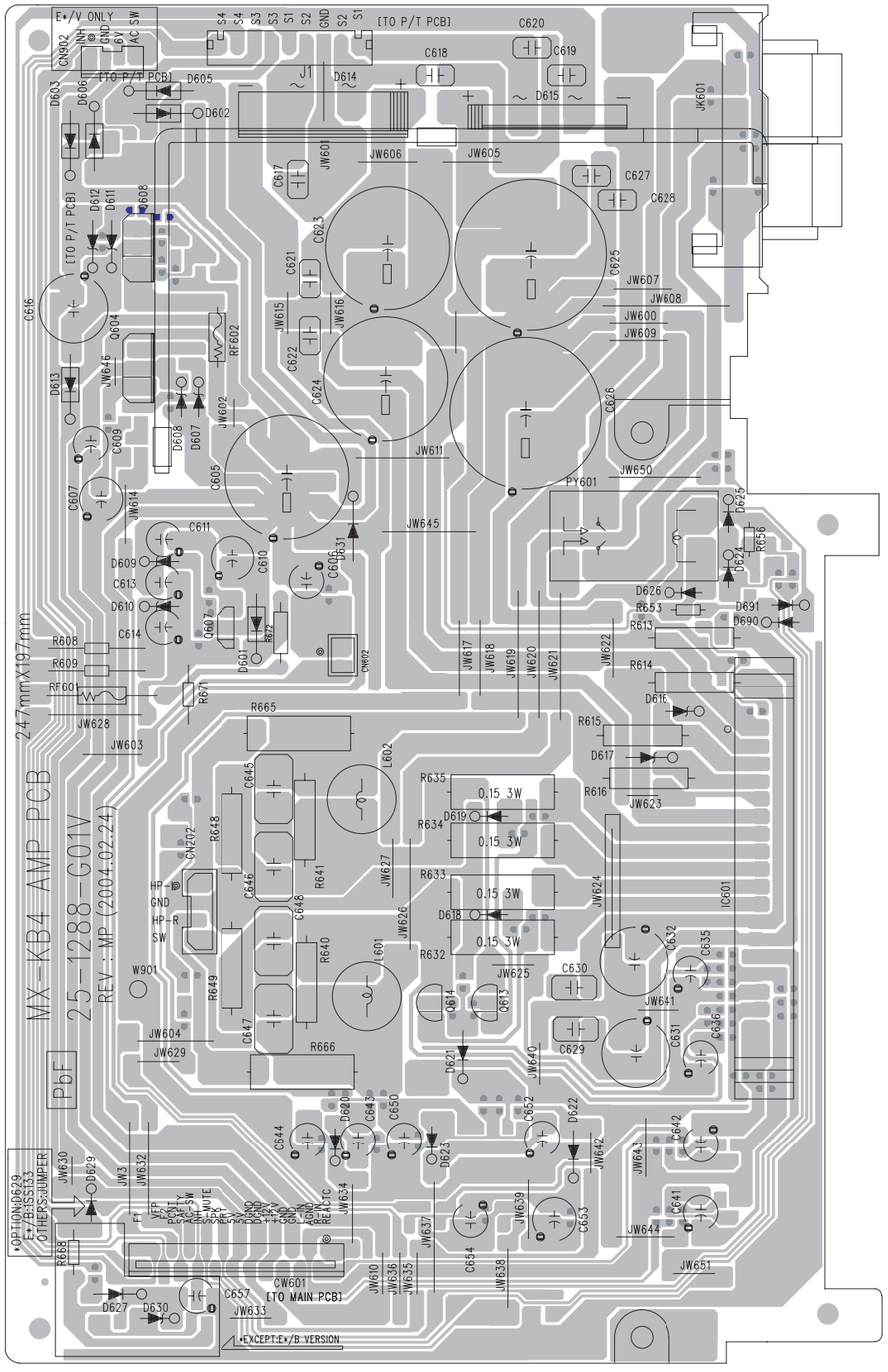
■ Main board (reverse side)



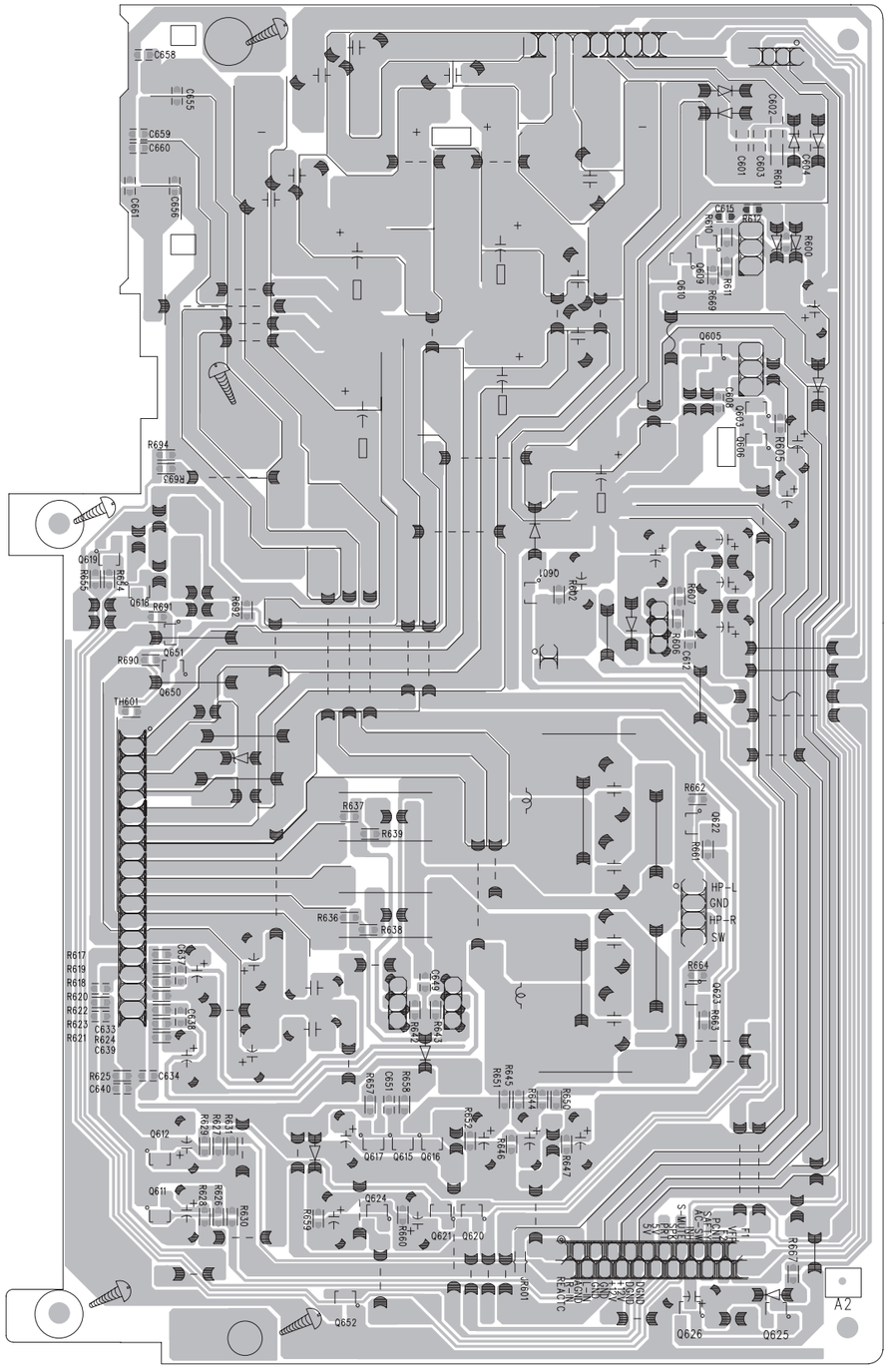
■ Front board (reverse side)



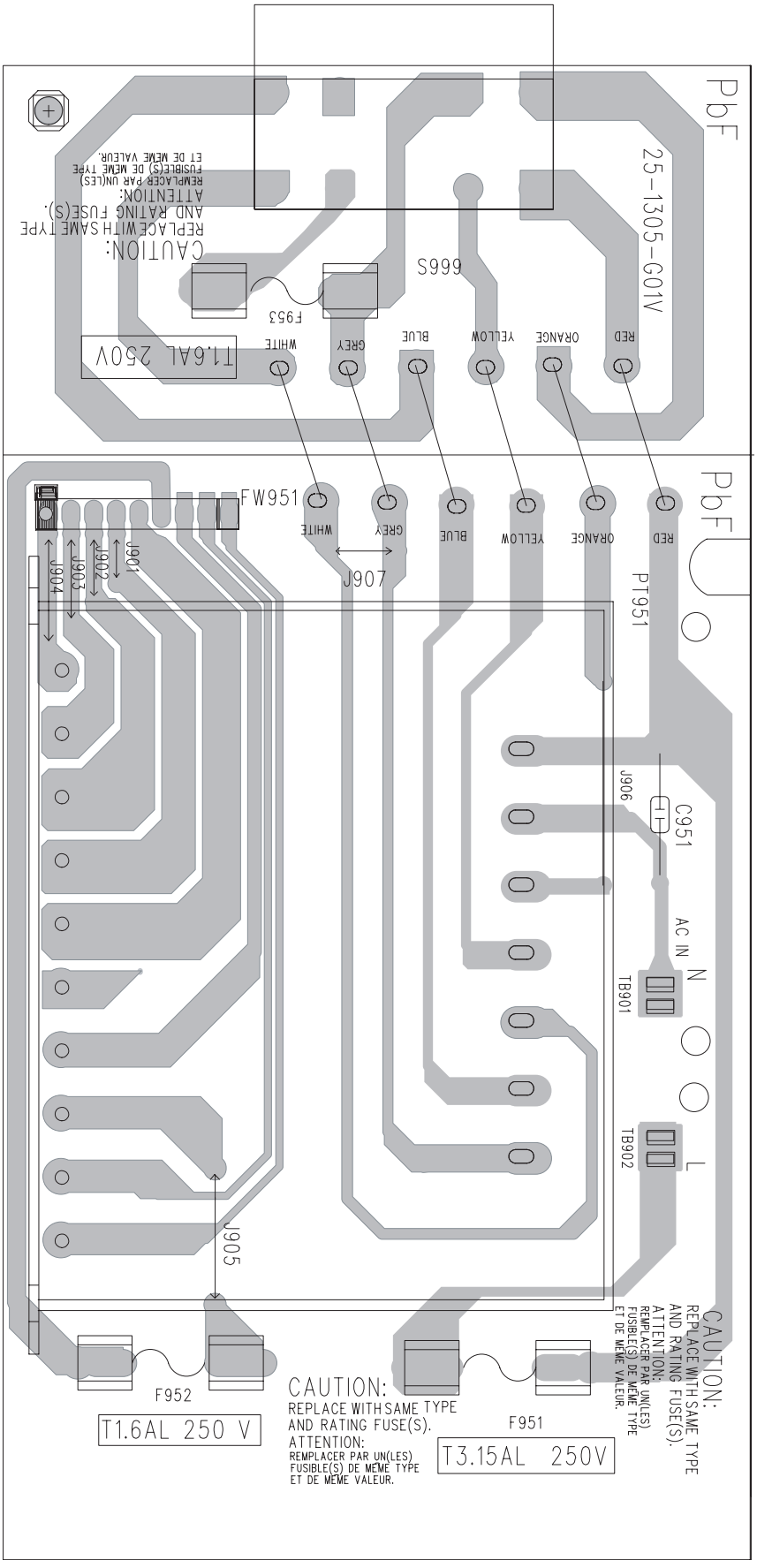
■ Amp board (forward side)



■ Amp board (reverse side)



■ Power trans board



JVC
VICTOR COMPANY OF JAPAN, LIMITED
AV & MULTIMEDIA COMPANY AUDIO/VIDEO SYSTEMS CATEGORY 10-1,1chome,Ohwatari-machi,Maebashi-city,371-8543,Japan

(No.MB254SCH)

Printed in Japan
WPC

PARTS LIST

[MX-KB4]

* All printed circuit boards and its assemblies are not available as service parts.

Area suffix

UW ---------- Brazil,Mexico,Peru
UJ ---------- U.S.Military

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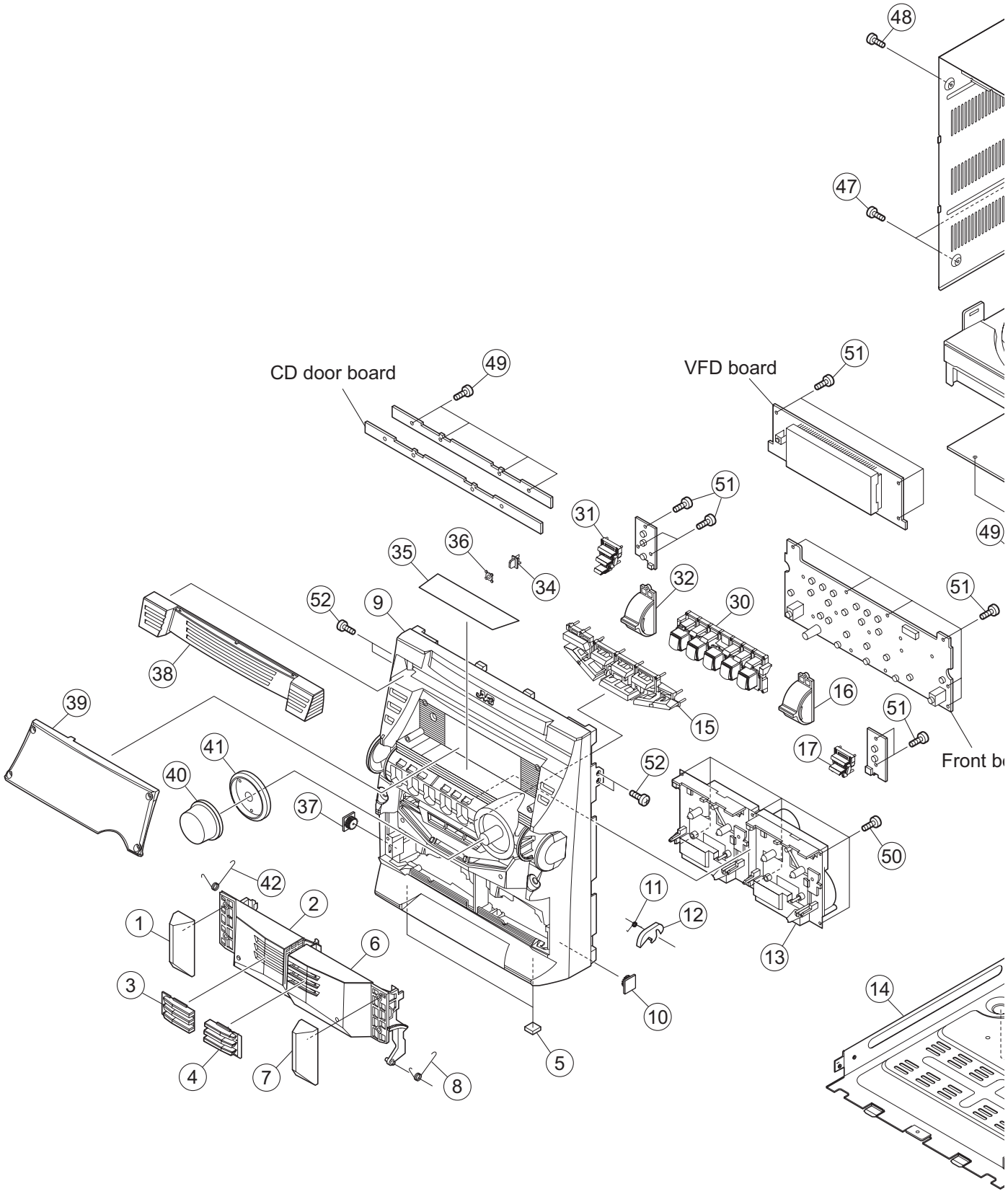
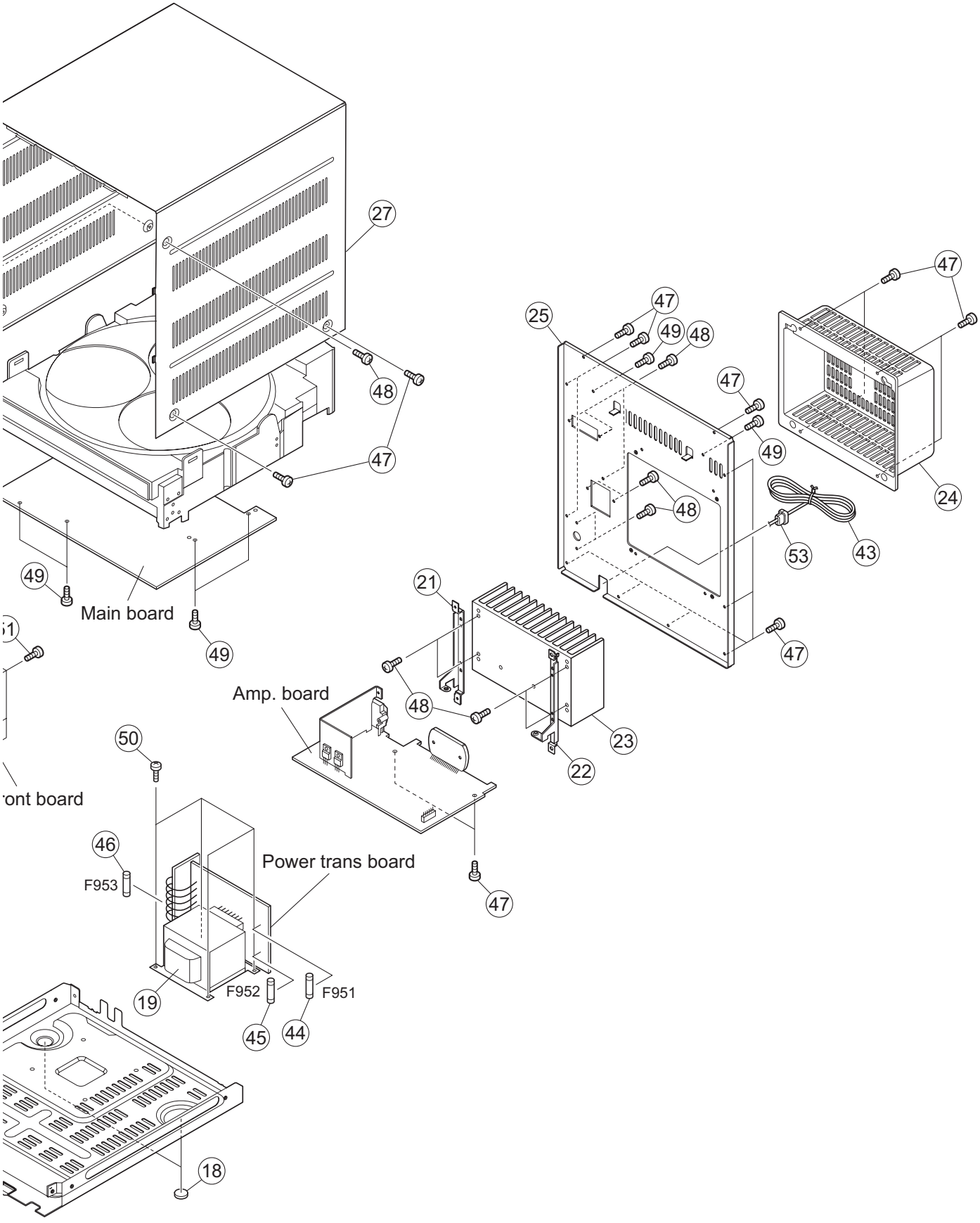
- Note-

Parts number of normal capacitors and normal resistors doesn't listed on the parts list.

Exploded view of general assembly and parts list

Block No. M 1 M M

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Main board
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Amp. board
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ont board
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F953
Power trans board
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F952
F951
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General Assembly

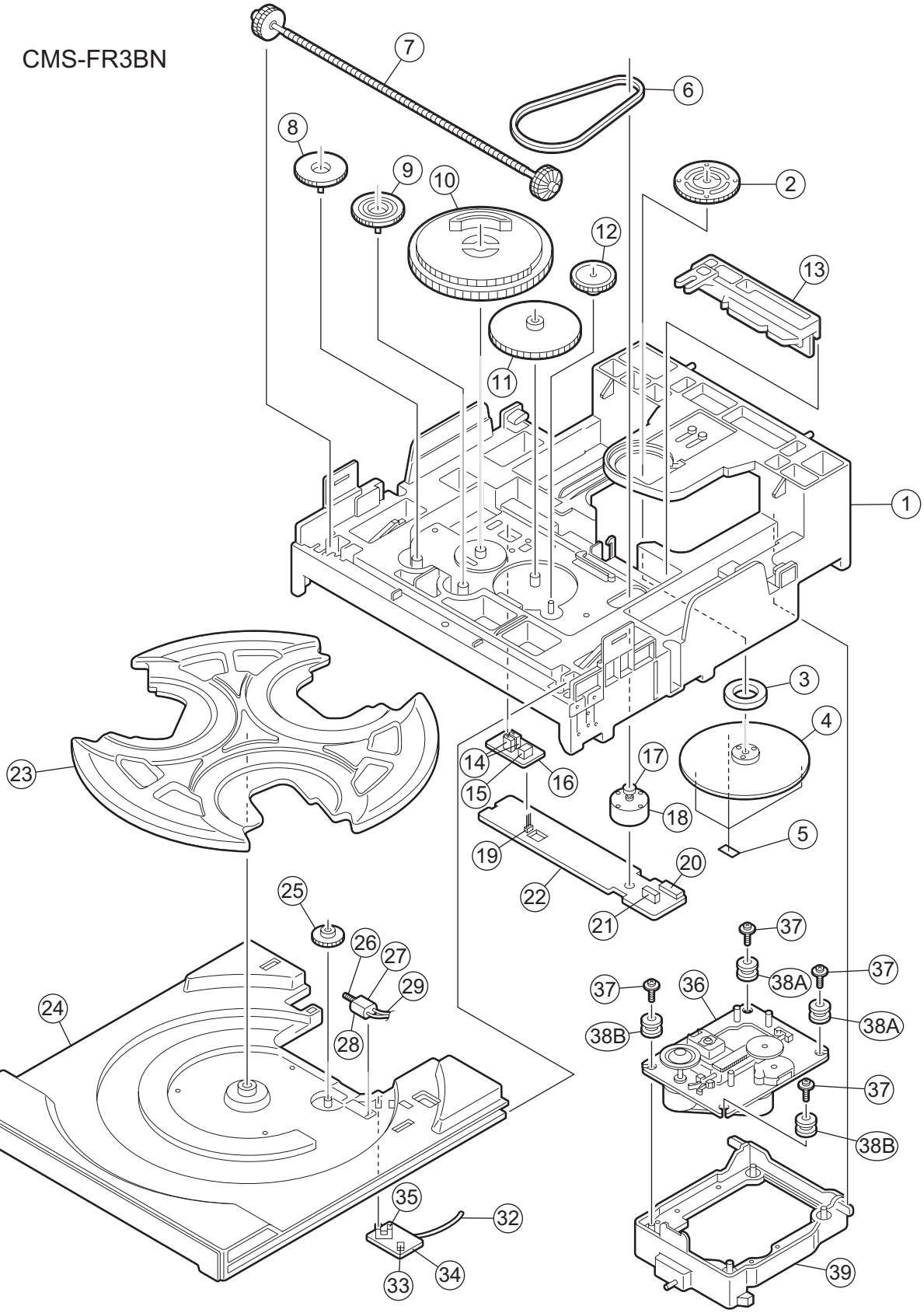
Block No. [M][1][M][M]

⚠	Symbol No.	Part No.	Part Name	Description	Local
	1	BI1077280101U1	CASS COVER L	HIPS 470	
	2	BI1077260101U1	CASS BOX L	HIPS 470	
	3	BI1077300101U1	CASS LENS L	SAN2495	
	4	BI1077310101U1	CASS LENS R	SAN2495	
	5	BI1077290101U1	CASS COVER R	HIPS 470	
	6	BI1077270101U1	CASS BOX R	HIPS 470	
	7	BI202724010101	CASS SPRING R	SUS WPB F=1.0	
	8	BI1077230101U1	FRONT PANEL	HIPS 470	
	9	BI103362020102	RUBBER FOOT	(x2)	
	10	BI300924010101	DAMPER 70		
	11	BI202772010101	CASS LOCK SPRING	SUS WPB F=0.40	
	12	BI1077370101U1	CASS LOCKER	RIGHT	
	13	BI3001571U	CASSETTE MECHA	ADR268DSW	
	14	BI202547011301	BOTTOM CHASSIS	SBCC T=0.8mm	
	15	BI1077350102U1	KEY POWER	ABS700	
	16	BI1077470101U1	KEY SOUND MODE	ABS700	
	17	BI1077450101U1	KEY OPEN	ABS700	
	18	BI301779010101	CUSHION	BACK(x2)	
⚠	19	BI211011110001W	POWER TRANS		
	21	BI202553010101	HEAT SINK HLDR	L	
	22	BI202560010101	HEAT SINK HLDR	R	
	23	BI202556010102	HEAT SINK	AL T=3.0mm	
	24	BI107483010101	HEAT SINK COVER	HIPS 470	
	25	BI2025500913U1	REAR PANEL	SBCC T=0.80mm	
	26	BI3400931	CD MECHANISM		
	27	BI202548010101	METAL COVER	SBCC T=0.60mm	
	30	BI1077340101U1	KEY CLOCK	ABS 700	
	31	BI1077450101U1	KEY RECORD	ABS 700	
	32	BI1077480101U1	KEY SOUND BOOSTER	ABS 700	
	34	BI1077360101U1	LENS SOUND	PMMA CP51	
	35	BI3020620101U1	MIRROR SHEET	PC T=0.5mm	
	36	BI1077440101U1	LENS POWER	PMMA CP51	
	37	BI300924010101	DAMPER 70		
	38	BI1077250101U1	CD DOOR	SAN 2495	
	39	BI1077240101U1	WINDOW DISPLAY	SAN 2495	
	40	BI1077320101U1	VOL KONB	ABS 700	
	41	BI1077330101U1	VOL RING	ABS 700	
	42	BI202725010101	CASS SPRING L	SUS WPB O1.0	
⚠	43	BI1401561V	POWER CORD		
⚠	44	BI403101	FUSE	F951 T3.15AL 125V	
⚠	45	BI402891	FUSE	F952 T1.6AL 250V	
⚠	46	BI402891	FUSE	F953 T1.6AL 250V	
	47	BIRM000603S3	SCREW	3.0XL6(x20)	
	48	BIRT000611B3	SCREW	3.0XL8(x13)	
	49	BIRT000617B3	SCREW	3.0XL10(x10)	
	50	BIPMX001101S3	SCREW	4.0XL6(x10)	
	51	BIBT000418	SCREW	2.6XL8(x14)	
	52	BIKT000627	SCREW	(x4)	
⚠	53	BI301789010101	BUSHING		

CD changer mechanism assembly and parts list

Block No. M A M M

CMS-FR3BN



CD changer mechanism

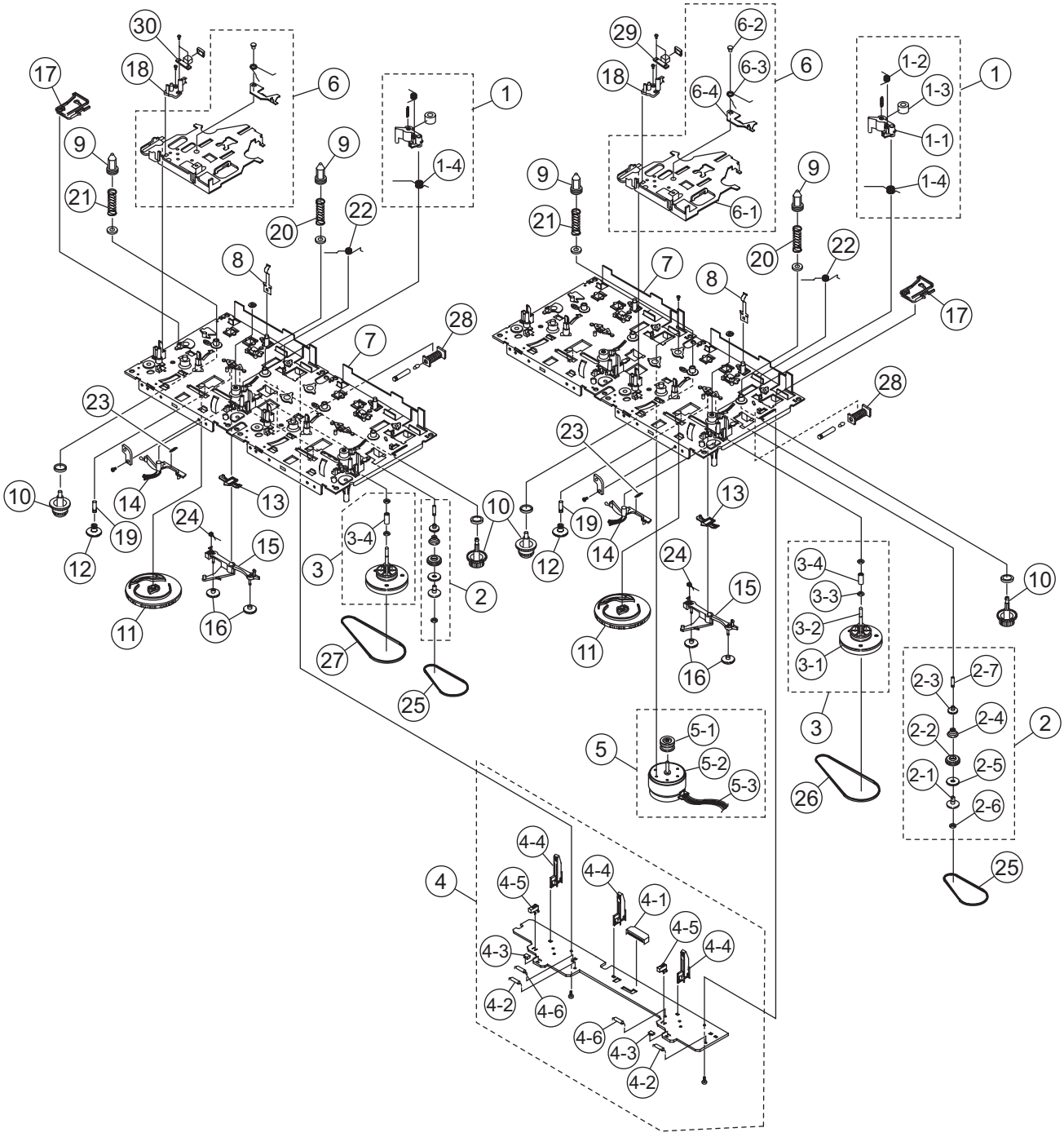
Block No. [M][A][M][M]

⚠	Symbol No.	Part No.	Part Name	Description	Local
	1	BIAJ7200601J	BASE-MAIN	1X1	
	2	BIAJ6100601P	BRKT-CHUCK		
	3	BI3302000158	MAGNET-FERRITE		
	4	BIAJ7200601L	TABLE-CHUCK	1X4	
	5	BIAJ6300601A	SHEET-CHUCK	(x3)	
	6	BIAJ7300601B	BELT-LOAD		
	7	BIAJ6600601N	GEAR-SYNCRO	1X2	
	8	BIAJ6600601L	GEAR-CONVERT	1X4	
	9	BIAJ6600601M	GEAR-TRAY	1X4	
	10	BIAJ6600601R	GEAR-CAM	1X2	
	11	BIAJ6600601K	GEAR-LOAD	1X4	
	12	BIAJ6600601J	GEAR-PULLEY	1X4	
	13	BIAJ7200601N	SLIDER-CAM	1X4	
	14	BI3405000101	SWITCH-MICRO	(x2)	
	15	BI3711003379	CONNECTOR-HEADE		
	16	BIAJ4100601K	PCB-SW		
	17	BIAJ6100601K	PULLEY-MOTOR	1X4	
	18	BIAJ3100601F	MOTOR-DC		
	19	BI3710001248	CONNECTOR-SOCE		
	20	BI3711003692	CONNECTOR-HEADE		
	21	BI3708001163	CONNECTOR-FPC		
	22	BIAJ4100601L	PCB-MECHA		
	23	BIAJ7200601P	TRAY-ROULETTE	1X2	
	24	BIAJ7200601Q	TRAY-DISC	1X2	
	25	BIAJ6600601Q	GEAR-ROULETTE	1X4	
	26	BIAJ6600601P	GEAR-WORM	1X2	
	27	BIAJ3100601K	MOTOR-LOADING		
	28	BIAJ6300601B	SHEET-MOTOR		
	29	BIAJ3900601A	WIRE-ROULETTE		
	32	BIAJ3900601B	WIRE-TRAY		
	33	BI3711000003	CONNECTOR-HEADE		
	34	BIAJ4100601J	PCB-SENSOR		
	35	BIAJ3200601A	SENSOR-ROULETTE		
	36	BIAJ9050605F	CMS-B31NG6U		
	37	BIAJ6000601F	SCREW	(x4)	
	38A	BIAJ7300601F	RUBBER-B31Y	(x2)	
	38B	BIAJ7300601D	RUBBER-B31	(x2)	
	39	BIAJ7200602F	LEVER-LIFTER	1X2	

Cassette mechanism assembly and parts list

Block No. M P M M

ADR268DSW



Cassette mechanism

Block No. [M][P][M][M]

⚠	Symbol No.	Part No.	Part Name	Description	Local
	1	BIMT9201010K	PINCH ARM F	(x2)	
	1-1	BIMT7200022A	ARM PINCH F		
	1-2	BI6107000353	S/P PINCH F		
	1-3	BIMT7300010A	ROLLER PINCH		
	1-4	BI6107000177	S/P P/R F	(x2)	
	2	BIMT9222010C	CLUTCH ASSY	(x2)	
	2-1	BIMT7200391A	BUSH C		
	2-2	BIMT7200387A	PULLEY C		
	2-3	BIMT7200392A	CAP C		
	2-4	BI6107001066	S/PC		
	2-5	BIMT7400092A	FELT C		
	2-6	BI6031000623	W/S	1.2X3.2X0.25	
	2-7	BIMT7100471A	SHAFT RF	(x2)	
	3	BIMT9101011P	FLYWHEEL F	(x2)	
	3-1	BIMT7200386A	PULLEY F/W F		
	3-2	BIMT7100140A	SHAFT F/W F		
	3-3	BI6031000622	W/S	2.3X3.5X0.25	
	3-4	BI6601000120	METAL FG F	CAPS(x2)	
	4	BIMT9121019M	CONTROL PCB		
	4-1	BI3711K00001	CONN R/P	11P	
	4-2	BI402000132	DIODE	(x2)	
	4-3	BI0604K0001A	PHOTO SENSOR	(x2)	
	4-4	BI3409001131	SWITCH-LEAF	(x3)	
	4-5	BI3404000306	SWITCH MODE	(x2)	
	4-6	BI2001K0001A	RESISTOR	3.0Kohm(x2)	
	5	BIMT9115013Y	MOTOR ASSY		
	5-1	BIMT72K0028A	PULLEY M/T		
	5-2	BI3101K0019A	MOTOR	EG-530AD-2B(D)	
	5-3	BI3809001038	MOTOR WIRE		
	6	BIMT9003010J	BASE HEAD B	(x2)	
	6-1	BIMT7000376A	BASE-HEAD B		
	6-2	BIMT7100161A	SHAFT-BASE S		
	6-3	BI6107000335	SPR-SUB		
	6-4	BIMT7000468A	BASE-SUB HEAD		
	7	BIMT72K0016A	CHASSIS MAIN		
	8	BIMT7000438E	PLATE SPRING	(x2)	
	9	BIMT7200383A	CHIP REEL	(x4)	
	10	BIMT7200384A	BASE REEL	(x4)	
	11	BIMT7200385A	GEAR CAM	(x2)	
	12	BIMT6600028A	GEAR IDLER	(x2)	
	13	BIMT7200021A	LEVER BRAKE	(x2)	
	14	BIMT7200388A	ARM CAM LOCK	(x2)	
	15	BIMT7200389A	ARM RF	(x2)	
	16	BIMT7200390A	GEAR RF	(x4)	
	17	BIMT7200069A	LEVER EJECT	(x2)	
	18	BIMT7200373A	TAPE GUIDE	(x2)	
	19	BIMT7100467A	SHAFT IDLER	(x2)	
	20	BI6107001063	S/P B.TF	(x2)	
	21	BI6107001062	S/P B.TR	(x2)	
	22	BI6107000331	S/P BASE HEAD	(x2)	
	23	BI6107000350	SP ARM CAM LOCK	(x2)	
	24	BI6107000351	S/P ARM RF	(x2)	
	25	BI6602001055	BELT SUB	(x2)	
	26	BI6602001057	BELT MAIN		
	27	BI6602001056	BELT MAIN		
	28	BIMT7500049A	SOLENOID	20ohm(x2)	
	29	BIMT59K0021A	HEAD 1WAY	(HASVH55042)A	
	30	BIMT59K0020A	HEAD 1WAY	(HASVH45051)A	

Electrical parts list

Main board

Block No. [0][1]

⚠ Symbol No.	Part No.	Part Name	Description	Local
IC1	LA1823	IC	BI113251	
IC4	LC72136N	IC	BI113271	
IC301	S3C825A	IC	BI116791	
IC302	BU4051BCF	IC	BI116691	
IC401	HA12237	IC	BI115011	
IC501	TDA7440D	IC	BI113231	
IC502	JCV8011	IC	BI116561	
IC503	BA4558F	IC	BI103952	
IC701	S1L9226	IC	BI116431	
IC702	BA5927S	IC	BI114091	
IC801	GM1117-108	IC	BI116441	
IC802	NJM7808FA	IC	BI110061	
IC803	SDRAM-16M	IC	BI116461	
IC804	S5L9279	IC	BI116401	
Q1	KTC3194	TRANSISTOR	BI2KTC3194P000V	
Q2	KTC3194Y	TRANSISTOR	BI2KTC3194YP000	
Q3	DTC114TK	TRANSISTOR	BI2DTC114TKA011	
Q4	DTC114TK	TRANSISTOR	BI2DTC114TKA011	
Q5	DTA114YK	TRANSISTOR	BI2DTA114YKA011	
Q7	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q8	KTA1267G	TRANSISTOR	BI2KTA1267GP000	
Q302	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q303	DTC114TK	TRANSISTOR	BI2DTC114TKA011	
Q304	2SC1815	TRANSISTOR	BI2SC1815GRP000	
Q401	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q402	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q403	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q404	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q405	DTA114YK	TRANSISTOR	BI2DTA114YKA011	
Q406	DTC323TK	TRANSISTOR	BI2DTC323TKA011	
Q407	KTA1267G	TRANSISTOR	BI2KTA1267GP000	
Q408	DTC114TK	TRANSISTOR	BI2DTC114TKA011	
Q409	DTC323TK	TRANSISTOR	BI2DTC323TKA011	
Q410	KTA1267G	TRANSISTOR	BI2KTA1267GP000	
Q411	DTC114TK	TRANSISTOR	BI2DTC114TKA011	
Q412	KTC3203Y	TRANSISTOR	BI2KTC3203YP000	
Q413	KTC3200G	TRANSISTOR	BI2KTC3200GP000	
Q414	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q415	KRA1273Y	TRANSISTOR	BI2KTA1273YP000	
Q416	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q417	KRA1273Y	TRANSISTOR	BI2KTA1273YP000	
Q418	DTC114TK	TRANSISTOR	BI2DTC114TKA011	
Q419	KRA1273Y	TRANSISTOR	BI2KTA1273YP000	
Q420	DTC323TK	TRANSISTOR	BI2DTC323TKA011	
Q501	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q502	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q503	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q504	KTA1267G	TRANSISTOR	BI2KTA1267GP000	
Q505	DTC114TK	TRANSISTOR	BI2DTC114TKA011	
Q506	KTA1267G	TRANSISTOR	BI2KTA1267GP000	
Q507	DTC114TK	TRANSISTOR	BI2DTC114TKA011	
Q508	2SC1815	TRANSISTOR	BI2SC1815GRP000	
Q509	DTC114TK	TRANSISTOR	BI2DTC114TKA011	
Q510	DTC114TK	TRANSISTOR	BI2DTC114TKA011	
Q701	KRA1266G	TRANSISTOR	BI2KTA1266GP000	
Q703	KTC3205	TRANSISTOR	BI2KTC3205P0008	
Q704	2SC1815	TRANSISTOR	BI2SC1815GRP000	
D1	1SS133	FR DIODE	BI31SS133M0007	
D2	1SS133	FR DIODE	BI31SS133M0007	
D3	1SS133	FR DIODE	BI31SS133M0007	
D4	1SS133	FR DIODE	BI31SS133M0007	
D5	1SS133	FR DIODE	BI31SS133M0007	
D6	1SS133	FR DIODE	BI31SS133M0007	

⚠ Symbol No.	Part No.	Part Name	Description	Local
D7	SVC203CP	VARACTOR DIODE	BI3SVC203CPA000	
D8	SVC203CP	VARACTOR DIODE	BI3SVC203CPA000	
D9	1SS133	FR DIODE	BI31SS133M0007	
D10	1SS133	FR DIODE	BI31SS133M0007	
D11	1SS133	FR DIODE	BI31SS133M0007	
D12	1SS133	FR DIODE	BI31SS133M0007	
D13	UZ3.6BSB	Z DIODE	BI3UZ3.6BSBM000	
D14	1SS133	FR DIODE	BI31SS133M0007	
D15	1SS133	FR DIODE	BI31SS133M0007	
D301	1SS133	FR DIODE	BI31SS133M0007	
D302	1SS133	FR DIODE	BI31SS133M0007	
D303	1SS133	FR DIODE	BI31SS133M0007	
D304	1SS133	FR DIODE	BI31SS133M0007	
D305	1SS133	FR DIODE	BI31SS133M0007	
D306	UZ4.7BSA	Z DIODE	BI3UZ4.7BSAM000	
D307	1SS133	FR DIODE	BI31SS133M0007	
D308	1SS133	FR DIODE	BI31SS133M0007	
D309	1SS133	FR DIODE	BI31SS133M0007	
D401	1SS133	FR DIODE	BI31SS133M0007	
D402	1SS133	FR DIODE	BI31SS133M0007	
D403	1SS133	FR DIODE	BI31SS133M0007	
D404	1SS133	FR DIODE	BI31SS133M0007	
D501	1SS133	FR DIODE	BI31SS133M0007	
D502	1N4001	DIODE	BI31N4001M0006	
D503	1SS133	FR DIODE	BI31SS133M0007	
D504	1SS133	FR DIODE	BI31SS133M0007	
D505	1SS133	FR DIODE	BI31SS133M0007	
D506	1SS133	FR DIODE	BI31SS133M0007	
D507	UZ11BSC	Z DIODE	BI3UZ11BSCM000	
D508	1SS133	FR DIODE	BI31SS133M0007	
D509	1SS133	FR DIODE	BI31SS133M0007	
D510	1SS133	FR DIODE	BI31SS133M0007	
D710	UZ3.6BSB	Z DIODE	BI3UZ3.6BSBM000	
D711	UZ3.6BSB	Z DIODE	BI3UZ3.6BSBM000	
D712	1SS133	FR DIODE	BI31SS133M0007	
L1	BI26027000KM002	FIXED INDUCTOR	2.7uH	
L2	BI18A843556N000	FILTER BEAD	843556 TB36	
L3	BI7A0170	FM COIL	3.5T	
L4	BI7A0171	FM COIL	2.5T	
L5	BI26101000KM002	FIXED INDUCTOR	100uH	
L6	BI26220000KM002	FIXED INDUCTOR	22uH	
L7	BI18A843556N000	FILTER BEAD	843556 TB36	
L50	BI26221000KM002	FIXED INDUCTOR	220uH	
L301	BI26100000KN000	FIXED INDUCTOR	10uH	
L302	BI18A843556N000	FILTER BEAD	843556 TB36	
L303	BI18A916121A005	F-BEAD	9M16GD	
L304	BI18A843556N000	FILTER BEAD	843556 TB36	
L501	BI18A843556N000	FILTER BEAD	843556 TB36	
L503	BI18A843556N000	FILTER BEAD	843556 TB36	
L505	BI18A843556N000	FILTER BEAD	843556 TB36	
L702	BI26100000KN000	FIXED INDUCTOR	10uH	
L801	BI26100000KN000	FIXED INDUCTOR	10uH	
L802	BI26100000KN000	FIXED INDUCTOR	10uH	
L803	BI26100000KN000	FIXED INDUCTOR	10uH	
L804	BI26100000KN000	FIXED INDUCTOR	10uH	
L805	BI26100000KN000	FIXED INDUCTOR	10uH	
L806	BI18A916121A005	F-BEAD	9M16GD	
L807	BI18A843556N000	FILTER BEAD	843556 TB36	
L808	BI18A843556N000	FILTER BEAD	843556 TB36	
T1	BI2901541	CO.FILTER	450KHz	
T2	BI605082	AM PACK COIL	7RBW	
T401	BI605071	BIAS-COIL	864306	
CF1	BI29LT10.7MP015	CER.FILTER	10.7MHz	
CF2	BI29LT10.7MP015	CER.FILTER	10.7MHz	
CF3	BI29JT10.7MP015	C DISCRIMINATOR	10.7MHz	
CF4	BI29GFMB3TP0151	BP FILTER	GFMB3-T	
CN201	BI12S1800061	FFC CONNECTOR	18P	
CN205	BI12S30039	CONNECTOR	3P	
CN401	BI12S30039	CONNECTOR	3P	
CN402	BI12S80024	CONNECTOR	8P	
CN403	BI12S110020V	FFC CONNECTOR	11P	

⚠ Symbol No.	Part No.	Part Name	Description	Local
CN601	BI12S220006	FFC CONNECTOR	22P	
CN701	BI12S160031V	FFC CONNECTOR	16P	
CN702	BI12P60142U	CONN. WIRE	6P	
CN703	BI12P100035U	CONN. WIRE	10P	
JA302	BI2301201	TERMINAL	4P PST-404	
P1	BI11A050M0	BLACK WIRE	50mm	
X1	BI2100942	CRYSTAL	75KHz	
X801	BI2102361	CRYSTAL	16.9344MHz	
XT301	BI2101012	CRYSTA	32.768KHz	
XT302	BI29ZTA8.00P015	C RESONTOR	8MHz	
XXXXX	BI640MXKB424400	MAIN PWB		UJ
XXXXX	BI640MXKB420600	MAIN PWB		UW
XXXXX	BI202426010101	PLATE ANT	T=0.3mm	

Front board

Block No. [0][2]

⚠ Symbol No.	Part No.	Part Name	Description	Local
IC201	RPM7138-V4	IC	BI115291	
IC202	S5G5128A	IC	BI116661	
Q201	DTC114TK	TRANSISTOR	BI2DTC114TKA011	
Q202	DTC114TK	TRANSISTOR	BI2DTC114TKA011	
Q205	DTC114TK	TRANSISTOR	BI2DTC114TKA011	
D201	1SS133	FR DIODE	BI31SS133M0007	
D202	1SS133	FR DIODE	BI31SS133M0007	
D206	1SS133	FR DIODE	BI31SS133M0007	
D207	1SS133	FR DIODE	BI31SS133M0007	
D208	1SS133	FR DIODE	BI31SS133M0007	
VR201	BI804401	JOG SWITCH	RE012307P	
L201	BI26100000KM002	COIL	10UH	
L202	BI26010000KM002	COIL	1uH	
L203	BI18A843556N000	FILTER BEAD	843556 TB36	
CW201	BI12S1800071	FFC CONNECTOR	18P	
CW202	BI12P402341	CONN. WIRE	4P	
CW205	BI12P30232V	WIRE	3P	
FL201	BI2701941	VFD	HNA-14MS09	
JK201	BI2301481V	JACK EARPHONE	PJ-310H	
JK202	BI2301471V	AUX JACK	PJ-310H-03	
LD201	B4531E	LED	BI28B4531EP0110	
LD202	SLR-342	LED	BI28SLR342VP010	
S201	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S202	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S203	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S204	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S205	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S206	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S207	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S208	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S209	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S210	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S211	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S212	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S213	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S214	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S215	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S216	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S217	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S218	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S219	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S220	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S221	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S222	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S223	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S224	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S225	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S226	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
S227	BI8SKRGAED0P015	TOUCH SWITCH	SKRGAED010	
XXXXX	BI640MXKB430600	FRONT PWB		

⚠ Symbol No.	Part No.	Part Name	Description	Local
XXXXX	BI107481010101	LED HOLDER		
XXXXX	BI202552010101	VFD HOLDER	(x2)	
XXXXX	BI202579010101	SENSOR HOLDER		
XXXXX	BI301923010101	RUBBER VFD	(x2)	
XXXXX	BI1206341V	FLAT CABLE	2P(x2)	
XXXXX	BI1206351V	FLAT CABLE	8P	

Amp. board

Block No. [0][3]

⚠ Symbol No.	Part No.	Part Name	Description	Local
IC601	STK412-030	IC	BI115001	
Q603	DTA114YK	TRANSISTOR	BI2DTA114YKA011	
Q604	KTB1366Y	TRANSISTOR	BI2KTB1366Y8V	
Q605	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q606	DTC114EK	TRANSISTOR	BI2DTC114EKA011	
Q607	KTA1273Y	TRANSISTOR	BI2KTA1273YP000	
Q608	KTB1366Y	TRANSISTOR	BI2KTB1366Y8V	
Q609	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q610	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q611	DTC323TK	TRANSISTOR	BI2DTC323TKA011	
Q612	DTC323TK	TRANSISTOR	BI2DTC323TKA011	
Q613	KTA1267G	TRANSISTOR	BI2KTA1267GP000	
Q614	KTA1267G	TRANSISTOR	BI2KTA1267GP000	
Q615	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q616	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q617	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q618	2SC3052F	TRANSISTOR	BI2SC3052FA013H	
Q619	DTC114YK	TRANSISTOR	BI2DTC114YKA011	
Q620	DTA114YK	TRANSISTOR	BI2DTA114YKA011	
Q621	DTA114YK	TRANSISTOR	BI2DTA114YKA011	
Q622	DTC323TK	TRANSISTOR	BI2DTC323TKA011	
Q623	DTC323TK	TRANSISTOR	BI2DTC323TKA011	
Q624	DTC114YK	TRANSISTOR	BI2DTC114YKA011	
Q625	DTC114YK	TRANSISTOR	BI2DTC114YKA011	
Q626	DTC114TK	TRANSISTOR	BI2DTC114TKA011	
D601	1N4003	DIODE	BI31N4003SEN000	
D602	1N4003	DIODE	BI31N4003SEN000	
D603	1N4003	DIODE	BI31N4003SEN000	
D605	1N4003	DIODE	BI31N4003SEN000	
D606	1N4003	DIODE	BI31N4003SEN000	
D607	UZ12BSB	Z DIODE	BI3UZ12BSCM000	
D609	UZ30BSA	Z DIODE	BI3UZ30BSDM000	
D610	UZ6.2BSB	Z DIODE	BI3UZ6.2BSBM000	
D611	UZ5.6BSB	Z DIODE	BI3UZ5.6BSBM000	
D613	1N4003	DIODE	BI31N4003SEN000	
D614	BI3RS402M1	B RECTIFIER	RS402M	
D615	BI3G5SBA601	B RECTIFIER	G5SBA60	
D616	UZ12BSC	Z DIODE	BI3UZ12BSCM000	
D617	UZ12BSC	Z DIODE	BI3UZ12BSCM000	
D618	1SS133	FR DIODE	BI31SS133M0007	
D619	1SS133	FR DIODE	BI31SS133M0007	
D620	1SS133	FR DIODE	BI31SS133M0007	
D621	1SS133	FR DIODE	BI31SS133M0007	
D622	1SS133	FR DIODE	BI31SS133M0007	
D623	1SS133	FR DIODE	BI31SS133M0007	
D624	1SS133	FR DIODE	BI31SS133M0007	
D625	1SS133	FR DIODE	BI31SS133M0007	
D626	1SS133	FR DIODE	BI31SS133M0007	
D627	1SS133	FR DIODE	BI31SS133M0007	
D630	MTZJ6.2B	Z DIODE		
L601	BI2601141	COIL	3.0uH	
L602	BI2601141	COIL	3.0uH	
CN202	BI12S40047	CONNECTOR	4P	
CN903	BI12S90025U	CONNECTOR	9P	
CW601	BI12S220006	FFC CONNECTOR	22P	

⚠ Symbol No.	Part No.	Part Name	Description	Local
JK601	BI2301271	TERMINAL SP	PST- 413-151	
RY601	BI8RL00191	RELAY	12V	
XXXXX	BI640MXKB4K0600	AMP PWB		
XXXXX	BI202555010101	HEAT SINK	TRANSISTOR	

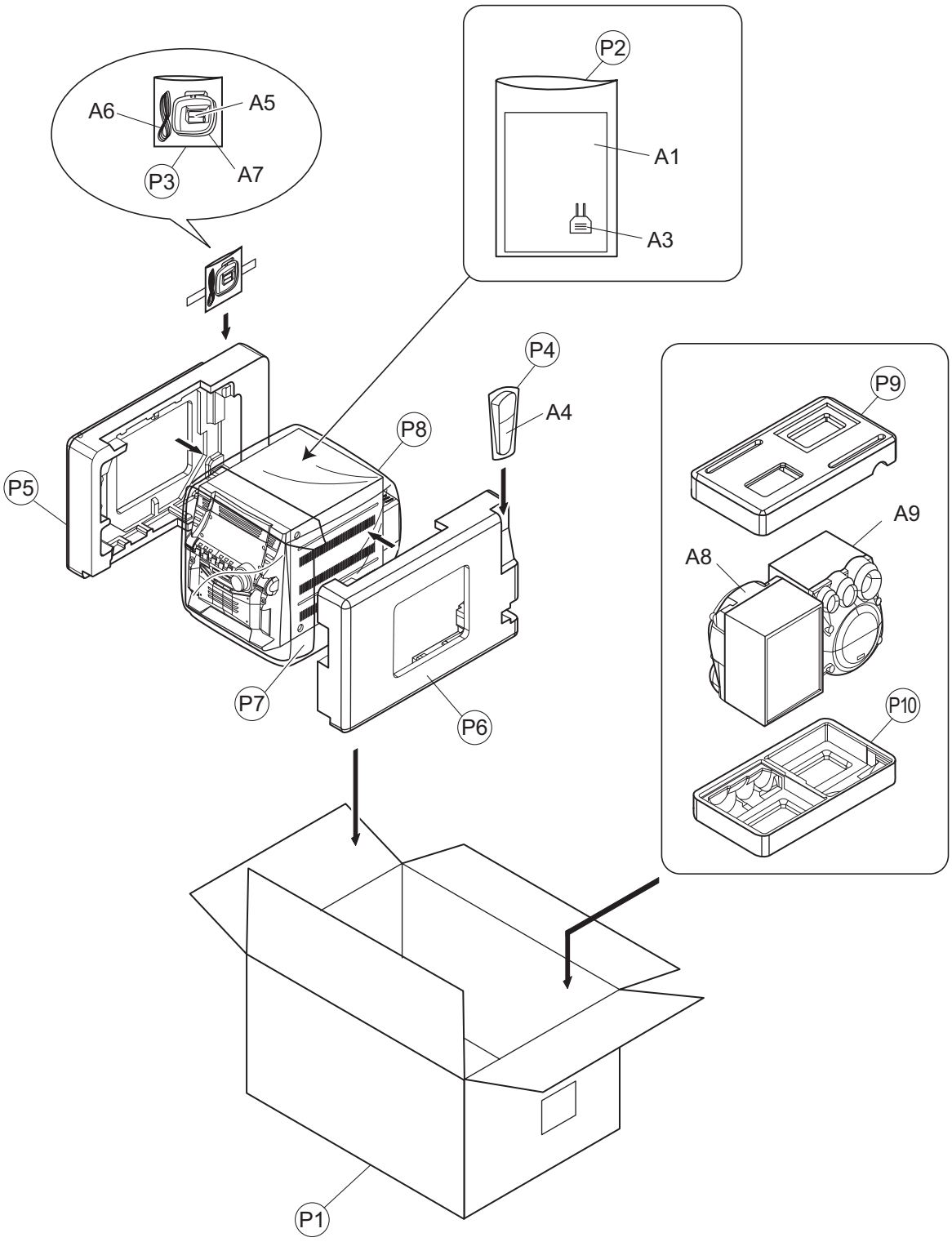
Power trans board

Block No. [0][4]

⚠ Symbol No.	Part No.	Part Name	Description	Local
⚠ C951	BICT224275M	CAPACITOR	0.22UF 275V	
CW902	BI12P90062V	WIRE	L=140mm	
S999	BI804351	SELECTOR	2P4T	
⚠ XXXXX	BI201196010101	FUSE HOLDER	CX-NV300(x6)	
XXXXX	BI640MXKB4H0600	TRANS PWB		
XXXXX	BI11TT80H5U	BLUE WIRE	1P BLUE	
XXXXX	BI201323010101	Terminal	1P	
XXXXX	BI11TT80H4	GRAY WIRE	1P GRAY	
XXXXX	BI11TT80H2U	ORANGE WIRE	1P ORANGE	
XXXXX	BI11TT80H1	RED WIRE	1P RED	
XXXXX	BI11TT80H6U	WHITE WIRE	1P WHITE	
XXXXX	BI11TT80H3U	YELLOW WIRE	1P YELLOW	

Packing materials and accessories parts list

Block No. M 3 M M



Packing and Accessories

Block No. [M][3][M][M]

⚠	Symbol No.	Part No.	Part Name	Description	Local
	A 1	BI4413341W	INST BOOK	LVT1215-007A ENG	UJ
	A 1	BI4413331W	INST BOOK	LVT1215-008A ENG SPA POR	UW
⚠	A 3	BI23A0094	CONVERSION PLUG	JT-0476 250V	
	A 4	BI600MXKB406S	REMOTE CONTROL		
	A 5	----------	BATTERY	(x2)	
	A 6	BIAN01012	ANT WIRE		
	A 7	BIAN01031	AM LOOP ANT		
	A 8	BI601MXKB4R38SV	SPEAKER BOX	R	
	A 9	BI601MXKB4L38SV	SPEAKER BOX	L	
	P 1	BI4314241U	CARTON		
	P 2	BI4710312U	POLY BAG	INST BOOK	
	P 3	BI4710572U	POLY BAG	AM LOOP ANT	
	P 4	BI4005355	BAG PV		
	P 5	BI4512831U	POLYFORM	UNIT LEFT	
	P 6	BI4512841U	POLYFORM	UNIT RIGHT	
	P 7	BI4511452W	SH FOAMED MAT		
	P 8	BI4710322U	POLY BAG	UNIT	
	P 9	BI4512891	POLYFORM	SPEAKER BOX TOP	
	P 10	BI4512881	POLYFORM	SPEAKER BOX BTTM	